

Unit Strategic Fire Plan

***CAL FIRE/ Tulare Unit
MAY 2022***



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Unit Strategic Fire Plan developed for Tulare Unit:

This Plan:

- Was collaboratively developed. Interested parties, Federal, State, City, and County agencies within the Unit have been consulted and are listed in the plan.
- Identifies and prioritizes pre-fire and post fire management strategies and tactics meant to reduce the loss of values at risk within the Unit.
- Is intended for use as a planning and assessment tool only. It is the responsibility of those implementing the projects to ensure that all environmental compliance and permitting processes are met as necessary.

DocuSigned by:

Matt Streck

5/6/2022

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Unit Chief

Date

Matt Streck

DocuSigned by:

Chris Fox

5/6/2022

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Pre-Fire Engineer

Date

Chris Fox

EXECUTIVE SUMMARY

The Tulare Unit (TUU) is one of 21 administrative Units within CAL FIRE. The Tulare Unit Strategic Fire Plan is a product of the implementation of the California State Fire Plan. The TUU Strategic Fire Plan was completed by a collaborative effort between the Unit Chief, Battalion Chiefs, Program Managers, Bureau Managers and various stakeholders in the Unit. This process provided TUU background information on fuels and fire data, current and proposed projects, and individual Battalion activities commonly carried out each year. The TUU Strategic Fire Plan is our local road map to create and maintain defensible landscapes to protect vital assets. The Fire Plan seeks to reduce firefighting cost and property loss, increase public and firefighter safety, minimize wildfire risk to communities and contribute to ecosystem health.

This Unit Strategic Fire Plan emphasizes State Responsibility Land within CAL FIRE jurisdiction. The Fire Plan will be a tool to assist the Unit with pre-suppression projects which exist within each Battalion. TUU plans, identifies and evaluates priority landscape, fire hazards, and wildfire risk. Additionally, it identifies opportunities for reducing structural ignitability, and identifies potential fuel reduction projects and techniques for minimizing those risks.

The TUU Strategic Fire Plan is our dynamic planning tool and intended to be a living document. While we plan for and develop new projects, our primary focus will be to obtain funding for the maintenance of the existing projects and pre-suppression infrastructure that is in place. This document will be updated each year on the successes that have been accomplished and new goals and objectives as outlined by the Unit and the California Strategic Fire Plan.

The Tulare Unit Key Goals and Objectives from the California Strategic Fire Plan:

- Support the implementation and maintenance of defensible space inspections around structures.
- Analyze trends in fire cause and focus prevention and education efforts to modify behaviors and effect change to reduce ignitions within Tulare County.
- Continually evaluate the success in achieving the 95% threshold of keeping fires less than 10 acres in size.
- Identify and evaluate wildland fire hazards and recognize assets at risk, collecting and analyzing data to determine fuel reduction project, and other projects.
- Support the availability and utilization of CAL FIRE resources, as well as public and private sector resources for fuels management activities, including ongoing maintenance.
- Assist landowners and local government in the evaluation of the need to retain and utilize features (e.g., roads, fire lines, water sources) developed during fire suppression efforts, taking into consideration those identified in previous planning efforts.

SECTION I: UNIT OVERVIEW

UNIT DESCRIPTION

Tulare Unit is in Tulare County in the San Joaquin Valley of Central California. Across the county the fire response responsibility areas consists of 599,086 acres of State Responsibility Area (SRA), 908,328 acres of Local Responsibility Area (LRA), and 1,591,911 of Federal Responsibility Area (FRA), a combined total of 3,099,325 acres. Through Interagency agreements the Direct Protection Area (DPA) differs from the Responsibility Area 621,139 State DPA, 913,845 Local (DPA), and 1,564,197 Federal DPA. CAL FIRE Tulare Unit is bordered on the east by Sequoia and Kings Canyon National Parks, and Sequoia National Forest. The counties of Kern, Kings and Fresno border to the South, West, and North respectively. The elevation of Tulare Unit land receiving direct protection by CAL FIRE ranges from 200 feet along the county's western boundary to a highest point of 9,252 feet on Moses Mountain to the East. This wide range of elevation supports many areas of vegetation consisting of grass, oak woodland, brush, and forests from mixed conifer to sub-alpine, including old growth Giant Sequoia. For the Tulare County Fuel Models see Appendix C.

Average annual temperatures range from 50 to 75 degrees; with low 20s during the winter months and highs exceeding 100 degrees for extended periods during the summer months. The rainy season is October through April; the average annual rainfall is 9.1 inches. Summers can be hot with extremely warm temperatures and dry relative humidity lasting for weeks. During the North American Monsoonal season thunderstorms are not uncommon over the higher elevations with some extending out over the Sierra Foothills and valley floor. Some years a monsoonal push will work from the southwest heading northeast causing thunderstorms with associated lightning and scattered precipitation on the valley floor and foothill region.

The United States Census Bureau in 2020 estimates Tulare County's population at 466,195. Most the population in the state responsibility area is located along two east-west highways. Highway 198 which leads to the Sequoia / Kings Canyon National Parks and Highway 190 which accesses a significant portion of the Sequoia National Forest/Giant Sequoia National Monument. Tulare Unit continues to experience a population growth rate of approximately 1 percent annually. Along with the population increase, wildland urban intermix has significantly increased where structures are being built throughout wildland areas. Providing adequate fire protection to those structures has become a major undertaking. However, the Tulare Unit has a low frequency of large damaging fires. CAL FIRE strives to extinguish 95% of all wildland fires at 10 acres or less. For the top ten largest fires over the past 50 years see Appendix D.

Tree Mortality in the Unit has waned, yet the risk from standing dead and falling trees is an ongoing issue. Extensive aerial mapping has been completed and the communities that are being impacted by tree mortality have been identified in this plan and project work has begun. Refer to Appendix A – Pre-Fire Projects and Division/Battalion/Program Plans for further information.

Tulare Unit's Strategic Fire Plan is our mechanism to catalog potential hazard areas and develop prescriptions to begin mitigating them based upon assessed priorities.

UNIT PREPAREDNESS AND FIREFIGHTING CAPABILITIES***TUU Facilities:***

TUU Headquarters is located just off Highway 198 in Visalia. At peak fire season, the Unit staffs 8 fire stations, an air attack base including one fixed wing air attack and two air tankers, an inmate conservation camp with 4 year-round hand crews, emergency command center, fire prevention bureau, training bureau, 2 bulldozer / transport combinations and 2 Registered Professional State Foresters.

The following is a list of TUU's facilities, equipment, and overhead personnel by battalion.

Badger Battalion

Badger Station	1 – Type III Engine
Woodlake Station	1 – Battalion Chief 1 – Type III Engine 1 – Bulldozer / Transport

Kaweah Battalion

Visalia Station	1 – Type III Engine
Three Rivers Station	1 – Battalion Chief 2 – Type III Engines

Tule Battalion

Porterville Station	1 – Battalion Chief 1 – Type III Engine 1 – Bulldozer / Transport
Bear Creek Station	2 – Type III Engines

Fountain Battalion

Fountain Springs Station	1 – Battalion Chief 2 – Type III Engines
Tyler Creek Station	1 – Type III Engine

Mountain Home Conservation Camp

Mountain Home Camp	1 – Division Chief 5 – Type I IA Hand Crews
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Emergency Command Center

Visalia Headquarters	1 – Battalion Chief 5 – Fire Captains 2 – Comm Operators
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UNIT PREPAREDNESS AND FIREFIGHTING CAPABILITIES CONTINUED:

Tulare Unit has MUTUAL AID AGREEMENTS with the following Departments:

- Tulare County Fire Department (TCFD)
- United States Forest Service (SQF)
- National Park Service (Sequoia & Kings)
- Kern County Fire Department (KRN)
- Tule Indian Reservation (TIA)
- Visalia City Fire Department (VFD)

SECTION II: COLLABORATION**COMMUNITY / AGENCIES / FIRE SAFE COUNCILS**

Representatives involved in the development of the Unit Strategic Fire Plan are included in the following table. Their organization and title are indicated below:

Plan Development Team:

Organization	Title
CAL FIRE Tulare Unit	Unit Chief
The Sequoia Fire Safe Council	Council President
Unites States Forest Service	FMO / District Manager
Tulare County Resource Conservation District	President
National Parks Service	District Manager
Tulare County Tree Mortality Task Force	Deputy Administrator
Oak to Timberline Fire Safe Council	Council President
Three Rivers Fire Safe Council	Council President

SECTION III: VALUES

A: VALUES

The Unit description contained in this Strategic Fire Plan provides the background for identifying TUU's Assets at Risk. Additionally, CAL FIRE's Fire and Resource Assessment Program (FRAP) prepared the document entitled California's Forest and Rangelands: 2017 Assessment. This assessment identifies the Unit Priority Landscapes. Priority Landscapes are intended to focus investments and other programs to address issues such as fire threat to ecosystem health, rangeland fire threat, and post fire erosion threat to community water. Each of the programs in TUU is geared to protect or enhance the assets. The following list provides a summary of TUU's Assets at Risk:

Life and Safety

The loss of life and disregard for safety is the ultimate price paid. One ounce of prevention is little compared to any injury or a loss of life. This is based on population density and makeup of the communities. The fire size, location, and rate of spread could prove detrimental.

Air Quality

The topography of the San Joaquin Valley air basin, the reliance on fossil fuels, and the seasonal weather patterns have created the conditions for significant air quality issues. Smoke from wildfires add to the already poor air quality conditions in the Unit, which can have negative health impacts. The potential is damage to health, vegetation, and visibility. This is ranked on vegetation type and the air movement. The unit is working to mitigate air quality impacts through the use of fuels treatments and prescribe fires.

Range Productivity

Agriculture is the primary industry in Tulare County and in the Unit. Cattle ranches and rangeland encompass hundreds of thousands of acres in the Unit. Fuel's reduction and prescribed fire can increase rangeland production, but wildland fires can burden cattle ranchers when they are forced to purchase feed to replace that lost in a wildland fire. The dollar cost to replace feed per acre will vary depending on the regions, owners, and feed.

Structures

There is a wide variety of structure types in the Unit. The effect of fire would depend on the housing density and the exposure (potential for structure loss in a large fire event). The cost would not only be to the average dollar lost per home but the non-commodity assets as well.

Timber

There are millions of board feet of merchantable timber in the unit. As forests trees provide innumerable ecosystems services. From the blue oak woodlands at lower elevations in the SRA to the Giant Sequoia and Red Fir forests in Mountain Home State Demonstration Forest trees provide the following ecosystem services:

- Regulate temperature and provide shade
- Filter air pollutants
- Sequester carbon
- Manage and filter rainwater
- Stabilize soil
- Maintain soil health
- Provide food and shelter for living organisms
- Improve people's mental, physical, and well-being
- Improve recreation and aesthetics

Water and watersheds

From North to South the major watersheds in the Unit are Kaweah River, Tule River, and the White River. Prior to the installation the dams the Kaweah and Tule Rivers would flow into Tulare Lake. Tulare Lake was the largest freshwater lake west of the Mississippi River prior to it being drained and convert to agricultural fields. Initially installed to manage flooding the dams are used to store water from the spring snow melt run off for later use by the agricultural industry. A fire could increase water yields but could cause significant damage to the ecosystem and water ways. Vegetation Management Plans are the key to watershed management. The fuels reduction and low intensity fire prescribed in VMP's can create habitat mosaics that decrease the risk of catastrophic wildfires. Landslide can follow catastrophic wildfires, this could impact the County's water systems, which could impact agricultural production. which given the right conditions can lead to landslides.

B: COMMUNITIES

The communities in the Unit that are at risk and are recognized on both the State and National levels are:

Badger	Camp Nelson	Exeter
East Porterville	Kennedy Meadows	Lindsay
Poso Park	Pine Flat	R Ranch
Tule River	Wilsonia	Tule River Indian Reservation
Springville	Three Rivers	

The communities that are not recognized at the state and national levels are:

Balance Rock	Blue Ridge	Elderwood
Campbell Creek	Fountain Springs	Hartland Camp
Hammond	Jack Ranch	California Hot Springs
Kaweah	Lemon Cove	Mehrten Creek
Posey	Sugar Loaf Village	Sierra Glen
Woodlake		

SECTION IV: PRE-FIRE MANAGEMENT STRATEGIES

A: FIRE PREVENTION

The Tulare Unit fire prevention program accomplishes fire management goals using four primary resources. These resources are law enforcement, pre-fire engineering, education, and volunteerism.

Throughout CAL FIRE's history, our officers have worked in partnership with the community along with our cooperators to provide the highest level of safety, service, and security while protecting the natural resources of the state of California, through enforcement of forest and fire laws. Our officers hold persons accountable who ignite fires through violations of law and/or negligence as well as those who violate the Forest Practice Act. CAL FIRE Peace officers conduct patrol, investigate fires, investigate reports of forest and fire law violations, make arrests, issue citations, conduct surveillance operations, collect and preserve evidence, and testify in court. Peace officers have Statewide jurisdiction and although their primary function is to enforce forest and fire laws, they may be called upon to enforce any of California's laws.

Pre-Fire Engineering works with property owners, stakeholders, fire safe councils, resource conservancy and through local jurisdictions in planning fuel reduction projects, Vegetation Management Plans (VMP), California Vegetation Treatment Program (CalVTP), and fire safe projects.

Education and outreach are accomplished by the Units Fire Prevention Specialist. Activities include, annual 1st grade school visits, fire prevention floats in local community parades, various community functions and staffing the Tulare County Fair booth. Volunteerism is supported through Volunteer in Prevention (VIP) program, which uses local volunteers to assist with public information, represent CAL FIRE at public events, and correspond with the public with CAL FIRE's mission in mind. Each program area's goal is to allow the prevention program to be successful and functional Unit wide.

Civil Cost Recovery

CAL FIRE's Civil Cost Recovery Program recovers fire suppression costs when a fire investigation reveals that the responsible party caused the fire negligently or in violation of law. This benefit's the State in two ways: it assigns fire suppression costs to culpable parties rather than the taxpayers at large and it serves as a deterrent to carelessness that can result in destructive fires. All fires meeting the above criteria are forwarded to Southern Region Office for review and civil cost collection.

ENGINEERING & STRUCTURE IGNITABILITY

The Prevention Bureau, through its Fire Captain / Pre-Fire Engineer position supports and collaborates with a wide variety of agencies and community members in the planning, organizing, and documentation of fuel reduction projects throughout the Unit.

Starting in 2018 the Pre-Fire Engineer began the process of implementing the State Board of Forestry and Fire Protection's new 2018 Strategic Fire Plan for California. Under that document this Unit Fire Plan attempts to record all efforts within the Unit to mitigate the threat posed by wildland fire. The primary focus is on projects designed to create fuel breaks adjacent to threatened communities and help private landowners and organizations reduce the threat within their property boundaries.

In Tulare Unit, the wildland urban interface (WUI) continues to grow. TUU contains a variety of land uses and types, from agriculture to forest. Commercial and residential structures are present throughout these land use types. The communities within the confines of the Tulare Unit have always been confronted by the threat posed by uncontrolled wildland fire. The structures within the Unit reflect well over 100 years of acceptable building materials and techniques. State law establishes certain requirements for building in the WUI that effect structure placement and decrease structure ignitability. Construction types, ignitability of materials and proper engineering are all critical when wildland fires encounter structures.

It is a fact recognized by all fire control personnel that any ignition can quickly result in a fire that immediately threatens structures. Whether it's 1,100, or 1,000 acres, structures can be threatened. In the case of small rapidly growing fires, ignition can be from direct flame impingement and/or radiant heat. In the case of very large landscape scale fires, a means of ignition could be airborne embers. Recognition of this fact by property owners should encourage them to take personal responsibility for improving the safety of their structures by following the steps required and/or recommended to reduce the threat of structure ignition.

Tulare Unit also enforces the LE-100 program (Fire Hazard Inspections). All structures in the State Responsibility Area are inspected. Homeowners who do not comply with the Public Resource Code (PRC) 4291 are cited. The idea behind the program is not to issue a citation but prevent the loss of structures when fire is moving through a community by receiving compliance. There were 8,045 property inspections completed in 2021 and 20 citations issued.

The California Building Commission (CBC) adopted the Wildland-Urban Interface codes (Chapter 7A) in late 2005. Many of the new requirements took effect in 2008. These new codes include provisions for ignition resistant construction standards applicable to the WUI, which emphasizes protecting against airborne embers. During this same period, CAL FIRE initiated a statewide project to update the Fire Hazard Severity Zone (FHSZ) designations within the WUI. Starting with the State Responsibility Areas in 2005 and concluding with Local Responsibility Areas adjacent to or within the SRA in 2008. Fire Hazard Severity Zones were field validated, updated as required and adopted by local government (County and City governing and regulatory entities), before official CAL FIRE maps were produced and released to local government. For Fire Hazard Severity Zones see Appendix F.

The requirements in Chapter 7A of the CBC and the associated FHSZ's have been enacted and are being enforced by local government building officials as new development plans work their way through the approval process. The updated zones will also be used by property owners to comply with Natural Hazards Disclosure requirements at the time of a property sale. Local government is encouraged to integrate the updated FHSZ's into the Safety Element of their General Plans. Property owners, developers, contractors, building materials businesses, and product designers can find specifics and answers to questions regarding California Building Code Chapter 7A, Fire Code Chapter 47, PRC 4290 and 4291, and Title 14, 19, 24 and other related information at the CAL FIRE Office of the State Fire Marshal website:

INFORMATION AND EDUCATION

Information & Education is an integral part of the Fire Prevention Program. The focus is to reach out to the elementary school children with match & lighter safety education. In addition to the school programs, it is imperative to educate the public on the importance of Defensible Space clearance, the proper method to burn hazard reduction materials, and the correct times to use power equipment.

The fire safety program that teaches children not to play with matches, lighters, or fire is a “Team Teaching” program. Team Teaching Targets Preschool through second grade. Team Teaching is a highly professional program developed by teachers, CAL FIRE personnel, USFS personnel, and child psychologists. This program utilizes Smokey Bear, an internationally recognized fire prevention symbol and the newest member to the CAL FIRE Team, Captain CAL, to teach children not to play with matches, lighters, or fire. Pre-planning is the most important factor for a successful team-teaching program. The Fire Prevention Specialist utilized various social media platforms to continue to share fire prevention messages with the public.

The first step in planning a fire prevention program is to identify what the Unit’s priorities are. Review the Unit Fire Plan to determine what fire causes occur in the target areas. For example, children match caused fires may have dropped in occurrence due to heavy saturation of schools with “Team Teaching” and other school education programs over the years, while “equipment use” or “debris burning” caused fires have increased. This would indicate a change in priorities. The Unit could then choose to develop an annual maintenance program for “Team Teaching” and redirect emphasis on “equipment use” and “debris burning” programs or assign additional personnel to assist with the implementation of programs to meet those needs in targeted areas.

The Tulare County Fair was held this year after being shut down due to the COVID pandemic. These functions continue to be an effective method of conveying the fire prevention messages to the public. Tulare Unit personnel educate the public and allow children to cut a log and brand Smokey the Bear into the piece they cut. Based on ignitions in the Unit our prevention message can change year to year.



Figure 1 Captain CAL assisting at the Tulare County Fair.

Defensible Space

The department has instituted an easy-to-use defensible space inspection known as the LE-100a. This form is accessed by our inspectors utilizing the "Collector App" via handheld electronic tablets. It contains detailed explanations of violations and how to correct them. Used by agency inspectors alike, it's checkbox format acts as a detailed guide for inspectors and a prompt for veteran inspectors while minimizing the amount of writing required, speeding up and standardizing inspections. During inspections, we encourage discussions with property owners about property issues.

Property owners living in State Responsibility Areas (SRA) are required by Public Resource Code (PRC) 4291 to maintain clearance of flammable vegetation around their property. A property owner's responsibility is to clear 100 feet from his or her structure(s) or to the property line, whichever is closer, and is limited to their lands. However, coordination with adjacent landowners to achieve maximum defensible space is encouraged. Short of expensive remodel and retrofit projects for existing structures, compliance with existing PRC 4291 requirements is the single most effective means by which property owners can reduce the likelihood of fire damage.

PRC 4291 clearance requirements: a 30' wide Defensible Space zone immediately adjacent to the structure, plus an additional 70' Reduced Fuel zone, for a total of 100 feet of clearance around all structures. The Prevention Bureau and each Battalion in the Unit is actively engaged in PRC 4291 education and compliance efforts, including: on-sight inspections, self-inspection forms, face to face education at the fire stations, participation in community events, close cooperation with Home/Property Owner Associations, and collaborative efforts with the local Fire Safe Councils, Local and Federal Government Fire Agencies and land management agencies.

Volunteer in Prevention Program

The VIP Program utilizes citizens and public service groups to volunteer time in non-salaried positions to reduce man-caused fires. Each year our VIP's play a vital role; they assist with staffing public events and emergency mitigation efforts. Each year VIP's assist by participating in fairs, displays, school programs and parades.

Fire Prevention Roadside Sign Program

Battalion staff will continue promoting the fire prevention message based on our current ignition problems via the 4'x8' roadside signs. The signs are placed in high traffic areas in every battalion. There are 6 in the Badger Battalion, 5 in the Kaweah Battalion, 5 in the Tule Battalion, and 3 in the Fountain Springs Battalion. These are primary entry points for commuters, part-time residents, and visitors to Tulare County. These highways and roads experience a very large volume of traffic, making it an excellent point from which to publicize our fire prevention messages. This is an annual program in which signs are posted throughout the fire season. Tulare Unit is currently in the process of adding approximately five to six additional roadside prevention signs in strategic areas within the SRA. We are in the planning phase of upgrading the wooden frames to metal frames to lower maintenance costs caused by either vandalism or weather-related deterioration.



Figure 2 Fire Prevention sign in the Tule Battalion

B. VEGETATION MANAGEMENT

Natural Resource Management is supporting the TUU Fire Plan through Forest Practice activities, the Vegetation Management Program, and other fuel reduction grants. Through the Forest Practice Program, we are encouraging healthy forest throughout the Unit. Landowners as well as local Registered Professional Foresters are currently reducing overcrowded timber stands. This is being implemented by Timber Harvest Plans (THPs). Reducing the amount of high fire vegetation and providing an opportunity to fight fire safely and aggressively is the primary goal. These programs also help increase the water table by reducing the amount of evapotranspiration. Reducing the amount of hazardous brush will increase the amount of forage for livestock wildlife. These projects help bring the natural mosaic back to the landscape.

In 2021, the Tulare Unit completed a total of 602 treated acres from various fuel reduction projects across the county. These projects include the Crawford Corral VMP burn prep located within the Badger Battalion, the Doyle Springs Fuel Reduction Project located within the Tule Battalion, The Gill Range Improvement NOE, located within the Visalia Battalion, the Grouse Fire Control Road Right of Way project located between the Tule and Visalia Battalion, the Shade Quarter fire control road and Shade Quarter mastication projects located within the Badger Battalion, and the Mountain Home Fuels Reduction Project located within Mountain Home Camp and Mountain Home Demonstration State Forest which included Camp Fuels Reduction, Dogwood Fuels Reduction, Frasier Fuels Reduction and the River Fuels Reduction.

A total of 3,279 personnel and equipment hours were recorded for the above projects. The scope of work consisted of thinning vegetation, mastication, manual and mechanical piling, limbing and bucking, lop and scatter, pile burning, and broadcast burning.

Tulare Unit Proposed projects:

The Tulare Unit currently has 12 new proposed grant funded projects within the unit under the (CAL FIRE) Climate Investments Fire Prevention Grants Program (CIFPGP). All projects are projected to be awarded to the Tulare County RCD either through the CIFPGP or through the CAL FIRE Directors Awards. The following proposed projects are as follows:

Boyd Fuel Reduction

The project's goal is to reduce fire fuels and improve clearances in a strategic portion of the SRA tying the Badger/Miramonte Fire Control Road to State Highway 245 and back to Mountain Road 152 (Drum Valley Road). The goal of the project is to create a better /much needed fuel break along Highway 245 near the Badger CAL FIRE Station. Upon completion, the project would better protect the communities of Badger, Mountain House, Sierra Glen, Pinehurst, and Miramonte. The 500-acre Treatment area is located on each side of State Highway 245 on private land.

Kaweah Fuel Reduction Project

The projects' goal is to reduce fire fuels and improve clearances in an area that is routinely threatened by wildfire. The goal of the project is to create a better/much needed fuel break along Highway 198 and the Kaweah River drainage from the community of Lemon Cove to Three Rivers. Upon completion, the project would better protect the wildland, both communities, and recreational facilities along the river. The 600-acre Treatment area is located along Highway 198 between the two communities. The project is located primarily on private land.

Tulare Unit Proposed Projects Cont.:

Pine Flat/Panorama Fuel Reduction Project

The projects' goal is to reduce fire fuels and improve clearances in an area that has been historically threatened by wildfire. The goal of the project is to create a better/much needed fuel break along County Roads and through private lands to encircle the communities of Pine Flat and Panorama. Upon completion, the project would better protect the wildland, both communities and recreational facilities. The 200-acre treatment area encircles each community.

River Ridge Fuel Reduction Project

The projects' goal is to reduce fire fuels and improve clearances in an area threatened by the Pier Fire and the Castle Fire. The goal of the project is to create a better/much needed fuel break along Balch Park Road and State Highway 190, and the Tule River Drainage. Upon completion, the project would better protect the communities of Springville, and the SCICON School of Conservation. The 1,200-acre treatment area is located on the east side of Balch Park Road, North of Highway 190. The project is located on private land.

Ponderosa Protection Project

Tulare County RCD has already completed two (2) Fire Prevention Grants in the Ponderosa Community in the last few years. This work was instrumental in preventing the 2020 Castle Fire and the 2021 Windy Fire from entering the community and damaging any structures. This proposed project would continue the fuel reduction work. There are approximately 130 dwellings located on 320 acres which would benefit from this proposed project. Approximately 80 acres and 30 individual lots would be treated.

Whisnet Fuel Reduction Project

The project's goal is to reduce fire fuels and improve clearances in an area threatened by the Windy Fire in 2021. The goal of the project is to create a better/much needed fuel break around Camp Whisnet in the Kern River drainage. Upon completion, the project would better protect the communities of Whisnet, Johnsondale, and Ponderosa. The 100-acre treatment area is located on each side of Forest Road 22S82 near Camp Whisnet, currently leased by the Boy Scouts of America.

Badger/Miramonte Fuel Reduction Project

The project's goal is to reduce fire fuels and improve clearances in a strategic portion of the SRA extending the Badger/Miramonte Fire Control Road at Orchard Drive to State Highway 245. The goal of the project is to complete a better connection to State Highway 245 near the Badger CAL FIRE Station. Upon completion, the project would better protect the communities of Badger, Sierra Glen, Pinehurst and Miramonte. The 200-acre treatment area is located on private land.

Eshom Fuel Reduction Project

The project's goal is to reduce fire fuels creating a critical fuel break within the SRA at Eshom Valley in Tulare County. The aim of the project is to create a fuel break on the north side of Eshom Valley Drive and would extend northward. The benefits of work already done by CAL FIRE to the south and the United States Forest Service (USFS) to the east. The four (4) mile in length 1,200-acre treatment area is located on private land. The immediate Project Area is 1,200 acres and is designed to protect the communities of Badger, Sierra Glen, and Hartland. The location is three (3) air miles east of Badger and 2 ¾ miles southwest of Hartland.

Tulare Unit Proposed Projects Cont.:**Rancheria Fire Control Road Brushing**

The project's goal is to reduce fire fuels and improve clearances along the SRA portion of a critical CAL FIRE, Fire Control Road. The aim of the project is to connect the County Road at Bear Creek Road with the USFS boundary 1 ½ miles to the north. The 36-acre treatment area of the project is located on private land. The 1 ½ mile length of Rancheria Fire Control Road is five miles north northeast of the community of Springville and west of the cabin community of Happy Camp.

Happy Camp Fuel Reduction

The project's goal is to reduce and mitigate fire fuels and improve clearances along Balch Park Road within the community of Happy Camp. The 2000-acre treatment area of the project is located on both private and public lands. The community is located northeast of Springville and is adjacent to Mountain Home Demonstration State Forest. The portion of Balch Park Road that runs through Happy Camp acts as a major fire control and evacuation route whose importance was recognized during the 2020 Castle Fire.

Grouse Connection Fuel Reduction Project

The project's goal is to reduce fire fuels creating a critical fuel break within the SRA at Grouse Valley in Tulare County. The aim of the project is to connect completed fuel breaks on both ends of Grouse Valley Fire Control Road, the north end connecting with South Fork Drive and the south end connecting with Blue Ridge Road north of Springville. The four (4) mile in length 200-acre treatment area is located on private and public lands. The project ties with previously completed fuel breaks completing a landscape wide break between the Tule and Kaweah River drainages. It is designed to protect the communities of Three Rivers, Springville, as well as Sequoia National Park and Sequoia National Forest to the east.

Tule Fuel Reduction Project

The project's goal is to reduce fire fuels and improve clearances in an area threatened by the Pier Fire and the Castle Fire. The goal of the project is to create a better/much needed fuel break along State Highway 190 and the Tule River drainage. Upon completion, the project would better protect the communities of Springville. The 600-acre treatment area is located on each side of Pleasant Oaks Drive and Globe Drive on private land. The 600-acre Project Area is immediately adjacent to a densely populated Wildland Urban Interface (WUI) community. It includes more than 500 structures, which are all directly dependent upon the effectiveness of the project to create a secure fire fuel break and a safe evacuation route for hundreds of residents.

BADGER BATTALION – 4111**Fuels:**

The fuels within the Badger Battalion are typical of those found in the foothill and mountain regions of the Southern Sierra Mountain Range. Vegetation types range from annual grasses, near the valley floor, to mixed conifer forest at the higher elevations. Below 500' elevation annual grasses, including wild oats, are the pre-dominate fuel type. Fuel loading in this area change from year to year based on the amount of precipitation received. Between 500'-3500', the fuel type becomes more oak woodland with an inter-mix of brush. The brush is made up of several varieties including manzanita, chemise, ceanothus, scrub oak, live oak, and poison oak. The brush becomes denser with the rise in elevation and on the North and East aspects. Above 3500' elevation, fuels transition to a Conifer fuel type. At 4500' elevation and above, the fuel is dominated by conifer species such as incense cedar, ponderosa pine, sugar pine, white fir, live oak and black oak with a mixed brush understory.

The past years of drought have had a profound effect on the conifer component in the vegetative regime. Of particular concern is the high occurrence of mortality in both of the pine species and incense cedar. Ocular estimates in December 2015, show some areas that exhibit mortality rates exceeding 95 percent of the standing trees. Mortality is occurring in all size and age classes which is manifest in the form of extensive areas of ladder fuels which extend from the forest floor into the dominant canopy layer.

Topography:

There are a wide range of topographical features that vary in elevation from 400' to near 5000'. The lower elevations are comprised of rolling foothills, while the upper elevations contain mountainous terrain with steep drainages, rugged canyons, and a few gentle valleys. Dry Creek and Cottonwood Creek are the major drainages in the area.

Weather:

Being a Mediterranean Climate, the typical summer weather pattern consists of 90 – 105 degrees with humidity's in the upper teens to low 20's during the day. At night, the temperature is in the upper 50's to near 70 degrees with humidity in the high 30's to low 50's. Winds are generally light with upslope, up canyon during the day and downslope, down canyon at night.

Fire History:

The Badger Battalion averages approximately 5-10 fire starts annually. The majority of those fires started are due to vehicle and equipment use in the lower grasslands. Although rare, starts in the upper elevations within the battalion do pose a significant potential for a large extended attack fire. Large extended attack fires have occurred in the battalion over the years with several fires in the 500 –1000-acre range. The Battalion was affected this year by the KMP Complex. The fire burned over 1100 acres in the Battalion, and we were able to utilize our fire roads and fuel reduction projects to help stop the fire.

2021 Badger Battalion Accomplishments



Figure 3 Crawford Corral project progress.

The Badger Battalion was able to make very good progress this year on the Crawford Corral Project. We logged over 400 hours of brushing with our dozers. We were also able to continue working on the Shadequarter project and opened-up some future projects during the KMP Complex



Figure 4 CAL FIRE Dozer clearing brush.

We have continued the maintenance of Fire Control Roads. CAL FIRE personnel, equipment and fire crews are utilized in all aspects for the maintenance and repair of these vital roads. CAL FIRE bull dozers, backhoes and road graders repair damaged roads and maintain a drivable surface.

Battalion personnel continue to be proactive with residential clearance inspections (PRC 4291) which requires the 100-foot clearance around all structures within the SRA. We have placed Fire Prevention Signs throughout the Battalion in high traffic areas reminding the public to prepare for fire season by clearing flammable vegetation from their property.



Figure 5 CAL FIRE Defensible Space Inspectors educating property owners on Defensible Space.

Pre-Attack Plans:

Develop updated maps utilizing GIS technology to capture all roads, fuel breaks, water locations, staging locations, and probable control lines. Possible strategies for fire suppression could be pre-determined utilizing fire history, typical fire weather and fire behavior models.

Battalion Priority:

Updating and maintaining our fire road system is a top priority in the Badger Battalion. By ensuring these road systems are well maintained, it allows us to access areas within the Battalion that would otherwise be difficult to access. We now have numerous funded projects in the Battalion and have also added three additional to this year's plan that we anticipate working on. These three additional projects would give the Unit a continuous fuel break between the Fresno County line and Three Rivers.

Battalion Priority's:

Priority #1

Project Name: Fire Control Road maintenance

Description: Maintain the fire control roads in the battalion for fire suppression and quick access to fires.

Community: Badger, Sierra Glen, Eshom Valley, Hartland Christian Camp, Sand Creek, Miramonte,

Project Collaborators: CAL FIRE, Tulare County landowners in the State Responsibility Area, Sequoia Fire Safe Council.

Priority #2

Project Name: Crawford Corral VMP

Description: Vegetation Management Project starting at Eshom Valley Road and extending towards Shadequarter Lookout.

Community: Badger and Eshom Valley

Project Collaborators: CAL FIRE

Priority #3

Project Name: Shadequarter VMP

Description: Vegetation Management Project surrounding the Shadequarter Lookout.

Community: Badger, Eshom Valley and North Three Rivers.

Project Collaborators: CAL FIRE

Priority #4

Project Name: Eshom VMP

Description: Vegetation Management Project North of Eshom Valley Road.

Community: Badger, Eshom Valley and Hartland.

Project Collaborators: CAL FIRE

Priority #5

Project Name: Badger VTP

Description: Vegetation Management Project around Badger FFS

Community: Badger

Project Collaborators: CAL FIRE

Battalion Priority's Cont.:

Priority #6

Project Name: Cedar Creek VTP

Description: Vegetation Management Project in the Cedar Creek Drainage that ties Shadequarter VTP in with the Mankin VMP

Community: Badger

Project Collaborators: CAL FIRE

Priority #7

Project Name: Fairlea VTP

Description: Vegetation Management Project that ties Crawford Corral VMP into Cedar Creek VTP

Community: Badger

Project Collaborators: CAL FIRE

Priority #8

Project Name: Bear Mountain VMP

Description: Vegetation Management Project around Bear Mountain

Community: Badger

Project Collaborators: CAL FIRE

Priority #9

Project Name: Badger Chipping Day

Description: Provide a chipping day at Badger FFS for residents of the Badger/Eshom Valley area to be able to dispose of their LE-100 material.

Community: Badger and Eshom Valley

Project Collaborators: CAL FIRE, Fire Safe Council

Priority #10

Project Name: Hartland Camp

Description: Fuel modification with hand crews

Community: Badger, Sierra Glen, Eshom Valley, Hartland Christian Camp.

Project Collaborators: CAL FIRE, Hartland Christian Camp, USFS, Fire Safe Council.

Priority #12

Project Name: Badger Fuel Break

Description: Fuel break on the ridge West of Badger FFS

Community: Badger, Eshom Valley, Sierra Glen

Project Collaborators: CAL FIRE, Badger Ranch and landowners.

Priority #13

Project Name: Battalion Fire Prevention Signs

Description: Public education, Fire Prevention Messages displayed on roadside signs.

Community: Elderwood, Cutler, Orosi, Badger, Eshom Valley

Project Collaborators: CAL FIRE and the Sequoia Fire Safe Council.

KAWEAH BATTALION – 4112**Fuels:**

The fuels within the Kaweah Battalion are typical of those found in the Central California San Joaquin Valley and Sierra Nevada. This area is influenced by a Mediterranean climate with warm, dry summers and cool moist winters. The climate, topography, geology, and land use patterns within this region determine the vegetation patterns. Vegetation within the Kaweah Battalion varies from annual grasses and forbs on the valley floor to mixed conifer forest at the higher elevations. The lower elevations manifest annual grasses, including wild oats, and loading varies from year to year based on seasonal rainfall. Between 500'-1000' elevation this changes to an Oak Woodland fuel type with brush becoming more prevalent along with pockets of gray/bull pine starting around the 2000' level. The brush component is made up of several species, including, but not limited to manzanita, chemise, scrub oak, live oak and poison-oak. The brush is interspersed with black oak and live oak, buckeye trees and sycamore (in drainages) with higher densities on the north and east aspects. This vegetation type continues to about 3500' where it blends into the Conifer Belt with scattered oaks, brush and conifer trees. At about 4500' conifers become the dominant fuel with such species as; cedar, pine, fir, live oak and black oak with a mixed brush understory which includes bear clover, lotus, chinquapin and whitethorn.

Topography:

The Kaweah Battalion is typical of most of the foothill areas in the Southern Sierra Nevada Range and encompasses a large portion of the Kaweah drainage and the Cottonwood Creek drainage. The Topography ranges from gentle rolling foothills above the Central Valley floor at 400' elevation to steep river drainage along Kaweah River. Major ridges and mountains are separated by small ravines, rugged canyons, and a few gentle valleys with elevations within the State Responsibility Area topping out near the 5000' elevation range.

Weather:

Typical summer weather patterns consist of 90 – 105-degree days with humidity's in the upper teens to low 20's and nights in the upper 50's to near 70 degrees with humidity in the high 30's to low 50's. Winds are generally diurnal, up slope, up canyon generally around 10am and switch to down slope, down canyon shortly before sunset. The winds can be upwards of 10mph and tend to have a heavy influence on fire behavior.

Fire History:

The Kaweah Battalion averages approximately 8-15 fire starts annually. The majority of fires started are due to vehicle or electrical power in the lower grasslands. Lightning tends to be a common fire cause in the higher elevations. Although rare, starts in the upper elevations within the Battalion do pose a significant potential for a large extended attack fire. Large extended attack fires have occurred in the Battalion over the years with several fires in the 500 – 1000-acre range. 3 of the 3 Type 1 Incident Management Team activations in the Tulare Unit impacted or took place in the Kaweah Battalion being the Case Mountain fire in 1987 and the Kaweah Fire in 1996. In 2020 the SQF Complex burned 174,178 acres and had an impact to areas of the community with mandatory evacuations that lasted over a week. In 2021 the KNP Complex burned 88,307 acres also impacted the East Fork and North Fork drainages.

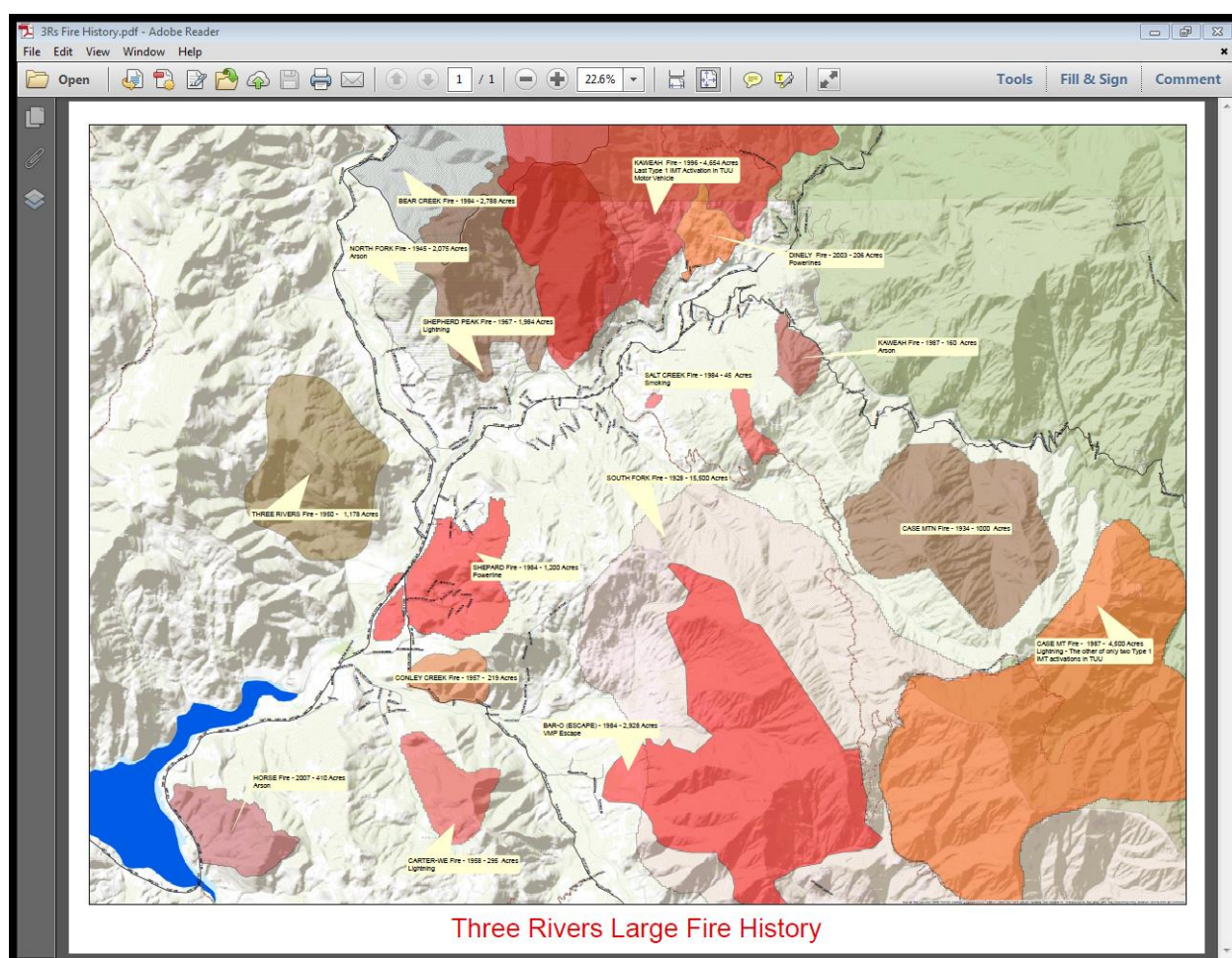


Figure 8 Three Rivers large fire history.

2021 Kaweah Battalion Accomplishments

The Kaweah Battalion accomplished several 2021 projects. One of the major continuing projects is fire road maintenance. Fire roads were identified as a priority in the past 5 year's fire plans. In 2021 fire suppression staff spent hundreds of hours making sure all fire roads in the battalion were inspected, brushed, and had serviceable culverts cleared.

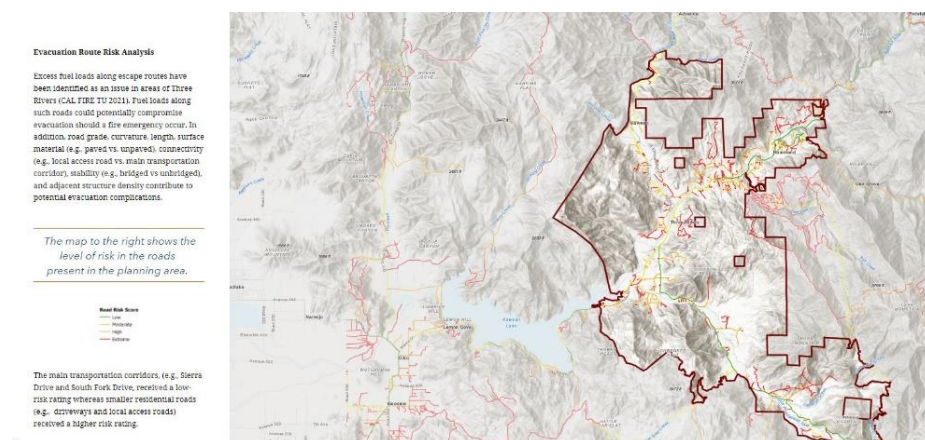
Grouse Road Fuel Project– The South Kaweah River Drive fuel reduction project took place in spring 2021. The scope of the project included fuel reduction 30 feet off road centerline, both horizontally and vertically through thinning, brushing, limbing up, and chipping. The intent for the project was to improve the condition for access and egress for first responders and residents in case of a wildland fire emergency.

Three Rivers Fire Safe Council –In 2021, Three Rivers Fire Safe Council signed an agreement with SWCA Environmental Consultants to complete the comprehensive CWPP. The final approval is scheduled spring of 2022



Figure 9 Three Rivers Fire Safe Council Disaster preparedness trailer

Escape Routes and Shelter-In-Place Locations – Previous fire plans have identified a concern with escape routes and shelter locations in the Three Rivers area. In 2019 the county fire department identified escape routes and shelter locations for all areas of the community. The plans are published and were distributed to the cooperating agencies. In 2021 fire crews were successful in vegetation treatment on Mountain Road 319, this success supports evacuation escape routes for residents. There are multiple future projects to support the escape routes hardening in the community of Three Rivers.



Lake Kaweah Rat Trail – The Kaweah Rat Trail was implemented and consists of a six-mile fuel break around Lake Kaweah on the Highway 198 corridor. This project was completed by Tulare Unit hand crews, with the purpose of any accidental start off the highway to be confined to the fuel break and slow down any potential expansion that would lead to a large-scale wildfire.



Figure 8 CAL FIRE hand crew cutting a fuel break in the Three Rivers area.



Figure 9 CAL FIRE hand crew constructing a fuel break.

Swamp Ranch VMP- In 2021 CAL FIRE conducted the first phase of three in performing a VMP burn located on the Gill Ranch. This coordinated burn supported eliminating dead and down fuels and the invasive Star Thistle that was present.



Figure 10 CAL FIRE personnel conducting a broadcast burn.



Figure 11 CAL FIRE personnel conducting a broadcast burn.

Concerns:

Fuels loads along escape routes: There are areas in the Three Rivers community where escape in a catastrophic fire emergency could be compromised due to fuel load along the road easement. It needs to be a priority for CAL FIRE and the cooperating agencies/groups to commence fuels projects starting with the major arteries and continuing with primary subdivision routes.

Tree Mortality: The Three Rivers community is at a heightened risk of catastrophic fires due to recent increased tree mortality rates. As indicated on the FRAP Tree Mortality Viewer, most higher elevations in the Battalion range from 20+ to 40+ dead trees per acre. Tree mortality on Case Mountain and in the Grouse, area is evident by plain sight and show well over 75% mortality rate in conifers.

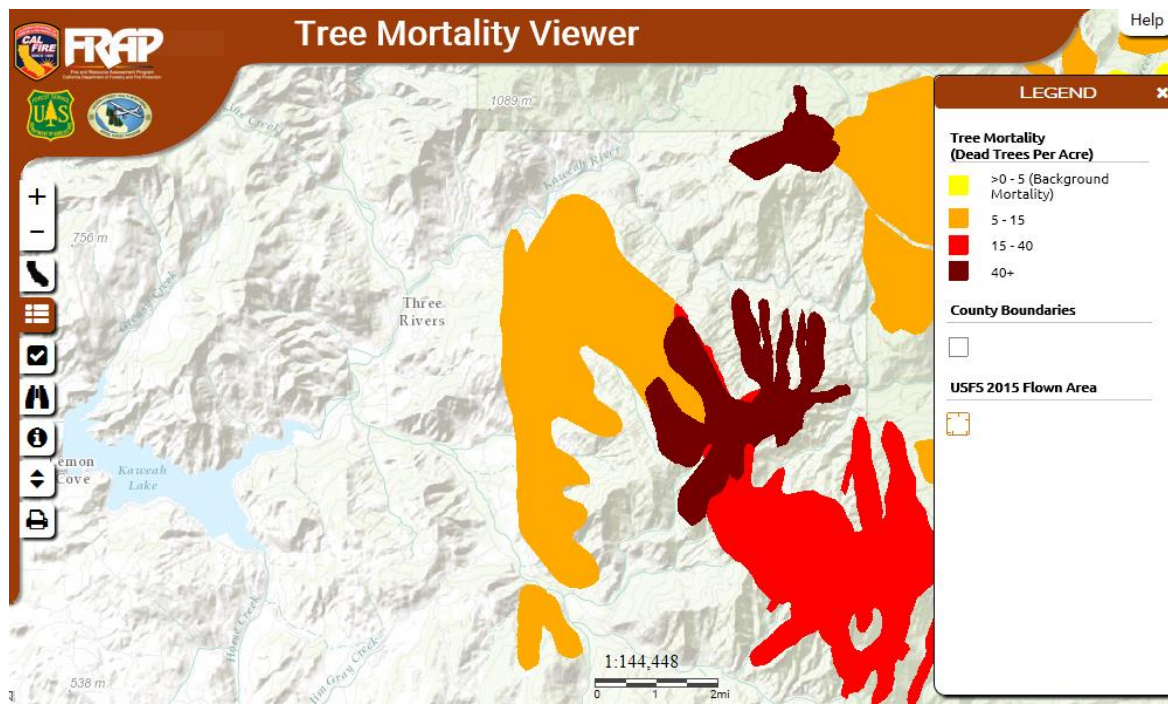


Figure 12 Image of tree mortality areas in the Kaweah Battalion

Pre-Attack Plans: The department needs updated maps utilizing GIS technology to capture all roads, fuel breaks, water locations, staging locations, Heli-spots, and plot probable control lines. Possible strategies for fire suppression could be pre-determined utilizing fire history, typical fire weather and fire behavior models. Distribute the maps so equipment from other stations / areas can efficiently function within the Kaweah Battalion.

Battalion Priorities:

Updating and maintaining our fire road system will continue to be a priority in the Kaweah Battalion in 2022. By ensuring these road systems are well maintained, it allows us to access areas within the Battalion that would otherwise be difficult to access. Although the fire roads are necessary for access, they also serve as fuel breaks and need to be maintained as such.

The following proposed projects in the Battalion have been identified. Some are in the process of nearing completion, while other proposed projects are still waiting for final approval.

Priority #1

Project Name: Hwy 198 Fuels Reduction and North Fork Drive Fuels Reduction.

Description: Fuels reduction along Hwy 198 and North Fork Drive through the community of Three Rivers. The purpose of the project will be to open the primary escape routes for the community and tourists in the area.

Community: Three Rivers

Project Collaborators: CAL FIRE, Three Rivers Fire Safe Council, CALTRANS.

Battalion Priorities Contin:

Priority #2

Project Name: Mineral King Road Fuels Reduction

Description: Fuels reduction along Mineral King Rd from the Oak Grove Dr. intersection to the Oak Grove bridge. Our goal is to open up the escape route for tourists and residents up the one-way in/out Mineral King Road.

Community: Three Rivers, Silver City, Mineral King

Project Collaborators: CAL FIRE, Three Rivers Fire Safe Council, Tulare County Roads, Sequoia-Kings National Park.

Priority #3

Project Name: Three Rivers School

Description: Fuel reduction modification/ Fuel Break southside of elementary school.

Community: Three Rivers

Project Collaborators: CAL FIRE

Priority #4

Project Name: Grouse Rd. Fuels Reduction (**In Progress**)

Description: Fuel reduction/modification and chipping for 1 mile along Grouse Rd. in-between South Fork Drive and the fire control road gate.

Community: Three Rivers – South Fork Drive

Project Collaborators: CAL FIRE, Grouse Rd residents, Three Rivers Fire Safe Council

Priority #5

Project Name: Silver City Tree Mortality

Description: VMP/Fuel Reduction

Community: Silver City/Three Rivers

Project Collaborators: CAL FIRE, Silver City Homeowners Association/Water board, Kaweah Han Owners Group, Sequoia Fire Safe Council, Sequoia-Kings National Park, Tulare County Fire Department, and other local stakeholders.

Priority #6

Project Name: Swamp Ranch VMP (**2nd Phase**)

Description: Broadcast burn in the ranch perimeter to reduce dead/downed fuels and help eliminate star thistle.

Community: Exeter

Project Collaborators: CAL FIRE, Gill family cattle ranchers.

Priority #7

Project Name: Fire Control Road Maintenance (**In Progress**)

Description: Maintain the fire control roads in the Battalion for fire suppression and quick access to fires.

Community: Badger, Kaweah, Three Rivers, Lemon Cove.

Project Collaborators: CAL FIRE, Tulare County landowners in the SRA, Sequoia Fire Safe Council.

Priority #8

Project Name: KOP VMP

Description: Broadcast burn within the Kaweah Oaks Preserve to eliminate dead/downed fuels and help restore the landscape to natural state. Reduce fuel load.

Community: Exeter Project Collaborators: CAL FIRE, Sequoia Riverland's Trust.

Battalion Priorities Cont.:

Priority #9

Project Name: Henderson Ranch VMP

Description Vegetation management to reduce or eliminate fuel load, fire hazard /severity to the area of Cinnamon Canyon/ South Fork drainage.

Community: Three Rivers

Project Collaborators: CAL FIRE

Priority #10

Project Name: Boswell Ranch VMP

Description: Vegetation management, increase water quantity and maintain water quality from managed watersheds, fire hazard fuel load reduction.

Community: Three Rivers / Yokohl Valley East of community of Exeter.

Project Collaborators: CAL FIRE

TULE BATTALION – 4113

Fuels:

The fuels within the Tule Battalion are typical of those found in the Central California San Joaquin valley and Sierra Nevada. This area is influenced by a Mediterranean climate with warm, dry summers and cool moist winters. The climate, topography, geology and land use patterns within this region determine the vegetation patterns. Vegetation within the Tule Battalion varies from annual grasses and forbs on the valley floor to old growth Sequoia redwood/mixed conifer forest at the higher elevations. The lower elevations manifest annual grasses, including wild oats, and loading varies from year to year based on seasonal rainfall. Between 500'-1000' elevation this changes to an Oak Woodland fuel type with brush becoming more prevalent. The brush component is made up of several species, including, but not limited to manzanita, chemise, ceanothus, Scrub Oak, Live Oak and Poison-Oak. The brush is interspersed with Black Oak and Live Oak, Buckeye trees and sycamore (in drainages) with higher densities on the north and east aspects. This vegetation type continues to about 3000' where it blends into the Conifer Belt with scattered oaks, brush and conifer trees. At about 4000' conifers become the dominant fuel with such species as; cedar, pine, fir, Live Oak and Black Oak with a mixed brush understory which includes bear clover, lotus, chinquapin and Whitethorn Ceanothus. This continues up to about the 5500' elevation where it transitions to a timber fuel type dominated by fir, pine and sequoia. This fuel type generally manifests areas of heavy downed and dead fuels.

Topography:

The Tule Battalion is typical of most river drainages found in the Southern Sierra Nevada Range and encompasses a large portion of the Tule River drainage and spills over into the Deer Creek drainage on its southern border. The topography ranges from gentle rolling foothills where it leaves the Valley floor at 500' elevation to sheer granite monoliths at the 8000' elevation. The Tule River drainage consists of three major forks; North, Middle, and South Forks and is further made up by numerous feeder creeks and seasonal streams. Major ridges and mountains are separated by small ravines, deep rugged canyons, and a few gentle valleys. Due to glacial activity thousands of years ago large granite boulders, rocky escarpments and sheer rock faces can be found on most ridges and mountains.

Weather:

The Tule Battalion like Tulare County is influenced by a Mediterranean climate with cool moist winters and warm dry summers. Average annual temperatures range from 50's to 70's however it is not uncommon to have temperatures in the low 20s during the winter months and highs exceeding 100 for extended periods during the summer months. The rainy season is October through April and annual rainfall average is 11.03 inches. Summers can be hot as stated earlier with extremely warm temperatures and dry relative humidity lasting for weeks. During the North American Monsoonal season thunderstorms are not uncommon over the higher elevations with some extending out over the Sierra Foothills and valley floor. Some years a Monsoonal push will work from the southwest driving northeast causing thunderstorms with associated lightning and scattered precipitation on the valley floor and foothill region.

Fire History:

The Tule Battalion includes the Highway 190 corridor which accesses numerous recreation areas such as Lake Success, Balch Park, Mountain Home Demonstration State Forest, Sequoia National Forest, Eagle Mountain Casino and Giant Sequoia National Monument. The Battalion traditionally experiences the majority of the fire activity in the Tulare Unit. Although recreationists contribute to some of the fire causes, a majority of the activity is attributable to arson caused fires. The majority of those fires started are due to arson and equipment use in the lower grasslands. Large fire history has been primarily in the grass and oak woodland fuel types. There have been several fires in the brush/timber fuels that originated in the Middle Fork of the Tule River that burned onto or threatened SRA lands; these were the "Coffee," "Deep," "Tule" and "Pier" fires. These fires did pose a threat to Mountain Home Demonstration State Forest.

In 2020 the Castle Fire burned over 12,000 acres in the SRA, most of this area occurred in the Tule Battalion.

2021 Tule Battalion Accomplishments

The Tule Battalion continued several 2021 fuels projects. Within the Battalion there are several fire suppression tanks. These tanks are strategically placed and allow fire engines to replenish with water closer to the scene, saving vital time. Cow Mountain Fire Control Road (FCR), Upper Balch Park Road and Rancheria FCR. CAL FIRE has secured funding through grants to maintain these tanks. All tanks have been inspected and are in service.



Figure 13 Mountain Home Conservation Camp Crew working on a project in the Tule Battalion

There are several fuel breaks within the Battalion, some of which are the Rancheria, the Pierpoint, the Hart Ranch, the Happy Camp, the River Ridge, and Golden Sierra Fuel Breaks. Fuel breaks have proven to be an effective tool at stopping the progression of wildfires, but without proper maintenance the fuel breaks become overgrown with flammable vegetation. Funding has been secured for the maintenance of several of these fuel breaks and the planning process has begun to get them back to original condition.

Fire Prevention / Community Awareness and Education Projects:

Battalion personnel continue to be proactive with residential clearance inspections (PRC 4291) which requires the 100-foot clearance around all structures within the SRA. These inspections have proved instrumental in the Defense of Structures from Wildfire. This program has a successful history with improved compliance and the need for citations diminishing each year.

Fire Prevention Signs have been placed in high traffic areas reminding residents in the SRA to prepare for fire season by clearing flammable vegetation from their property. We are currently working with the Tulare County Road Department and CAL TRANS to add additional signs in the Battalion. The Tulare Unit Prevention Staff is very active and instrumental in spreading the CAL FIRE MISSION and Message to area schools ranging from K-12 as well as attending multiple Job Fairs to High Schools and Colleges.



Figure 14 CAL FIRE crews removing brush on a fuel's reduction project.



Figure 15 CAL FIRE personnel educating property owners on proper clearance and fire safety inspections.

Fire Defense Projects:

There are currently several major projects in the Battalion in multiple phases of approval. The Battle Mountain, Country Club, Deer Creek, Golden Sierra, Happy Camp, Merit Farms, River Ridge, South Porterville, Tule Indian Reservation, Tule River, Ward Canyon and Worth VTP's. These projects will involve many different landowners with ownership of small parcels to 200,000+ acres, combined the projects are around 20,000 acres to be treated with various means.

Pre-Attack Plans:

The department needs updated maps utilizing GIS technology to capture all roads, fuel breaks, water locations, staging locations, heli-spots, and plot probable control lines. Possible strategies for fire suppression could be pre-determined utilizing fire history, typical fire weather and fire behavior models. Distribute the maps so equipment from other stations / areas can efficiently function within the Tule Battalion.

Battalion Priorities:

The following proposed projects in the Battalion have been identified. Some are in the process of nearing completion, while other proposed projects are still waiting for final approval.

Priority #1

Project Name: Fire Control Road/Cistern maintenance/New signage

Description: Maintain the fire control roads in the battalion for fire suppression and quick access to fires.

Community: Springville, Triple R Estates, Mountain Home State Forest, Ponderosa, Camp Nelson, Happy Camp, Tule Indian Reservation.

Project Collaborators: CAL FIRE, Tulare County landowners in the SRA, and Sequoia Fire Safe Council.

Priority #2

Project Name: Rancheria / Cow Mountain Fuel Break maintenance

Description: VMP/VTP Fuel Reduction

Community: Springville

Project Collaborators: CAL FIRE, USFS SQF, Tulare County landowners in the SRA, Tulare County Resource Conservation District, Sequoia Fire Safe Council, and other local stakeholders.

Priority #3

Project Name: Ward Canyon

Description: VMP/VTP Fuel Reduction

Community: Springville

Project Collaborators: CAL FIRE, Tulare County Resource Conservation District, Tulare County landowners in the SRA, Sequoia Fire Safe Council.

Priority #4

Project Name: Merritt Farms

Description: VMP/VTP Fuels Reduction 10,000 acres

Community: Springville

Project Collaborators: Merritt Farms, CAL FIRE

Priority #5

Project Name: River Ridge

Description: VMP/VTP Fuels Reduction

Community: Springville

Project Collaborators: CAL FIRE, Tulare County Resource Conservation District, Tulare County landowners in the SRA, Sequoia Fire Safe Council, and other local stakeholders.

Priority #6

Project Name: Country Club

Description: VMP/VPT Fuel Reduction

Community: Springville

Project Collaborators: CAL FIRE, Tulare County Resource Conservation District, Tulare County landowners in the SRA, Sequoia Fire Safe Council, and other local stakeholders.

Priority #7

Project Name: Battle Mountain

Description: VMP/VTP Fuels Reduction

Community: Springville

Project Collaborators: CAL FIRE, Tulare County Resource Conservation District, Tulare County landowners in the SRA, Sequoia Fire Safe Council, and other local stakeholders.

Battalion Priorities Cont.:

Priority #8

Project Name: Golden Sierra

Description: VMP/VTP Fuels Reduction

Community: Springville

Project Collaborators: CAL FIRE, Tulare County Resource Conservation District, Tulare County landowners in the SRA, Sequoia Fire Safe Council, and other local stakeholders.

Priority #9

Project Name: Pierpoint Fuel Break

Description: Fuel reduction done with hand crews

Community: Pierpoint Springs, Camp Nelson

Project Collaborators: CAL FIRE, Tulare County Fire, Tulare County landowners in the SRA, Sequoia Fire Safe Council. United States Forest Service

Priority #10

Project Name: Doyle Springs Fuels Reduction/Tree Mortality

Description: VMP/Fuel Reduction

Community: Doyle Springs

Project Collaborators: CAL FIRE, Tulare County Fire, Tulare County landowners in the SRA, Sequoia Fire Safe Council, TCRCD, and other local stakeholders.

Priority #11

Project Name: Tule River

Description: VMP/VTP Fuel Reduction

Community: Springville

Project Collaborators: CAL FIRE, Tulare County Resource Conservation District, Tulare County landowners in the SRA, Sequoia Fire Safe Council, and other local stakeholders.

Priority #12

Project Name: Worth

Description: VTP/Fuel Reduction

Community: Porterville

Project Collaborators: CAL FIRE, Tulare County Resource Conservation District, Tulare County landowners in the SRA, Sequoia Fire Safe Council, and other local stakeholders.

Priority #13

Project Name: South Porterville

Description: VMP/Fuel Reduction

Community: Porterville

Project Collaborators: CAL FIRE, Tulare County landowners in the SRA, Sequoia Fire Safe Council, and other local stakeholders.

Priority #14

Project Name: Deer Creek

Description: VMP/VTP Fuels Reduction

Community: Porterville

Project Collaborators: CAL FIRE, Tulare County Resource Conservation District, Tulare County landowners in the SRA, Sequoia Fire Safe Council, and other local stakeholders.

Battalion Priorities Cont.:

Priority #15

Project Name: Tule Indian Reservation

Description: VMP/VTP Fuels Reduction

Community: Tule Indian Reservation

Project Collaborators: CAL FIRE, Tule Indian Reservation, BIA, Tulare County Fire, Tulare County Resource Conservation District, Sequoia Fire Safe Council, and other local stakeholders.

Priority #16

Project Name: Mountain Home Conservation Camp, Mountain Home Demonstration State Forest Fuels Reduction/Tree Mortality

Description: VMP/VPT Fuel Reduction

Community: Springville

Project Collaborators: CAL FIRE, USFS SQF, landowners in the SRA, Sequoia Fire Safe Council, and other local stakeholders.

Priority #17

Project Name: Blue Ridge FCR/Repeater Site Fuels Reduction

Description: VMP/VPT Fuel Reduction

Community: Springville

Project Collaborators: CAL FIRE, Tulare County Resource Conservation District, landowners in the SRA and other local stakeholders.

Priority #18

Project Name: Battalion Fire Prevention Signs

Description: Public education, Fire Prevention Messages displayed on roadside signs.

Community: Porterville, Springville, Doyle Springs, Camp Nelson, Pierpoint, Cedar Slope, Sequoia Crest, and Wishon.

Project Collaborators: CAL FIRE and the Sequoia Fire Safe Council.

Priority #19

Project Name: Sequoia Crest Fuels Reduction/Tree Mortality

Description: VMP/Fuel Reduction

Community: Sequoia Crest

Project Collaborators: CAL FIRE, USFS SQF, Tulare County Fire, Tulare County Resource Conservation District, Tulare County landowners in the SRA, Sequoia Fire Safe Council, and other local stakeholders.

Priority #20

Project Name: Pierpoint Fuel Break

Description: Fuel reduction done with hand crews

Community: Pierpoint Springs, Camp Nelson

Project Collaborators: CAL FIRE, USFS SQF, Tulare County Fire, Tulare County Resource Conservation District, Tulare County landowners in the SRA, Sequoia Fire Safe Council, and other local stakeholders.

Priority #21

Project Name: Doyle Springs Fuels Reduction/Tree Mortality

Description: VMP/Fuel Reduction

Community: Doyle Springs

Project Collaborators: CAL FIRE, USFS SQF, Tulare County Fire, Tulare County Resource Conservation District, Tulare County landowners in the SRA, Sequoia Fire Safe Council, and other local stakeholders.

FOUNTAIN SPRINGS BATTALION – 4114**Fuels:**

The fuels within the Fountain Springs Battalion are typical of those found in the Central California foothills, San Joaquin Valley and Sierra Nevada. This area is influenced by a Mediterranean climate with warm, dry summers and cool moist winters. The climate, topography, geology and land use patterns within this region determine the vegetation patterns. Vegetation within the Fountain Springs Battalion varies from annual grasses and forbs on the valley floor to mixed conifer forest at the higher elevations. The lower elevations manifest annual grasses, including wild oats and loading varies from year to year based on seasonal rainfall. Between 500'-1000' elevation this changes to a Woodland Oak fuel type with brush becoming more prevalent along with pockets of gray/bull pine starting around the 2000' level. The brush component is made up of several species, including, but not limited to manzanita, chemise, ceanothus, Scrub Oak, Live Oak and Poison-Oak. The brush is interspersed with Blue Oak and Live Oak, Buckeye trees and Sycamore (in drainages) with higher densities on the north and east aspects. This vegetation type continues to about 3500' where it blends into the conifer Belt with scattered oaks, brush and conifer trees. At about 4500, conifers become the more dominant fuel with such species as; cedar, pine, fir, live oak and black oak with a mixed brush understory which includes Bear Clover, Lotus, Chinquapin and Whitethorn Ceanothus.

Topography:

The Fountain Springs Battalion is typical of most of the foothill areas in the Southern Sierra Nevada Range and encompasses a large portion of the Deer Creek drainage, White River drainage and the upper portions of the Poso Creek drainage on its southeastern border. The topography ranges from gentle rolling foothills above the valley floor at 400' elevation to steep river drainages. Major ridges and mountains are separated by small ravines, deep rugged canyons, and a few gentle valleys with elevations within the State Responsibility Area topping out near the 5000' elevation range.

Weather:

Typical summer weather patterns consist of 90 – 105-degree days with humidity in the upper teens to low 20's and nights in the upper 50's to near 70 degrees with humidity in the high 30's to low 50's. Winds are generally light and diurnal, up slope, up canyon in the daytime and down slope, down canyon at night.

Fire History:

The Fountain Springs Battalion averages approximately 7-10 fire starts annually. The majority of those fires started were undetermined. Each year however you can expect a least a couple of starts in the upper elevations within the Battalion where there is significant potential for a large extended attack fire. Large extended attack fires have occurred in the Battalion over the years with several fires in the 500 – 1500-acre range, there is no known history of major fires in the Battalion.

2021 Fountain Springs Battalion Accomplishments

The Fountain Springs Battalion had several accomplishments in 2021. The 340-acre Posey Vegetation Management Project around the communities of Posey, Panorama Heights and Balance Rock was identified as the most important project needing attention due to the extremely WUI environment. This project is still on-going with a completion date of 2023.



Figure 16 Crew clearing brush from roadway.

Other accomplishments have been fire road maintenance needing attention, station personnel have driven all fire control roads noting their condition and removing flammable brush where needed and performed routine maintenance on culverts.



Figure 17 Defensible Space Inspectors educating a landowner about defensible space.



Figure 18 Example of a shaded fuel break.

Battalion personnel continue to be proactive with residential clearance inspections (PRC 4291) which requires the 100-foot clearance around all structures within the SRA. We have placed Fire Prevention Signs throughout the Battalion in high traffic areas reminding the public to prepare for fire season by clearing flammable vegetation from their property.

CONCERNS:**TREE MORTALITY**

The communities of Posey, California Hot Springs, and Pine Flat are at a heightened risk of catastrophic fires due to recent increased tree mortality rates.

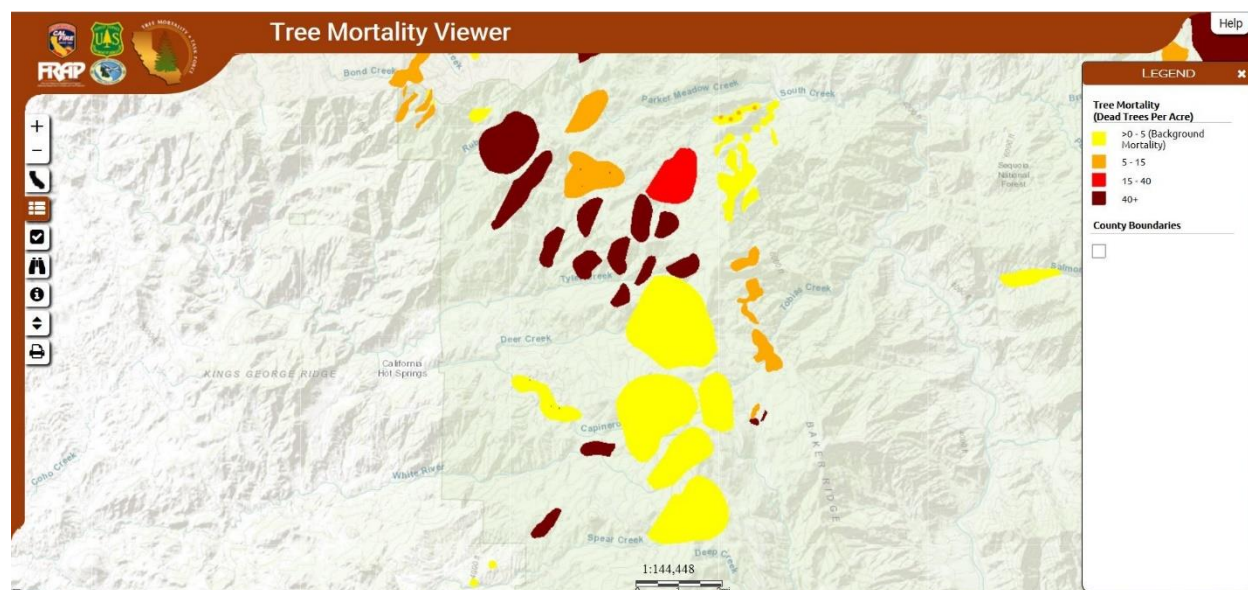


Figure 19 Tree Mortality areas in the Fountain Springs Battalion

- **TREE MORTALITY** — Results of 2016-2017 aerial tree-mortality surveys. See how the situation has dramatically worsened over the years. Using a color legend (click on the legend bars icon on the far left of the Viewer) the map shows:
 - Deep burgundy depicting areas with more than 40 dead trees per acre
 - Red depicting 40 - 15 dead trees per acre
 - Orange depicting 15-5 dead trees per acre
 - Yellow depicting 5 or less dead trees per acre



Figure 20 Crew assisting with “Chipper Days” in the Hot Springs area.

Areas of concern:

1. There are two small communities within the battalion, Pine Flat/Hot Springs and Panorama/Posey.
2. The lower elevations within the battalion, consists mostly of large tracks of ranch land with very few residences.

Pre-Attack Plans:

Develop updated maps utilizing GIS technology to capture all roads, fuel breaks, water locations, staging locations, and plot probable control lines. Possible strategies for fire suppression could be pre-determined utilizing fire history, typical fire weather and fire behavior models. Distribute the maps so equipment from other stations / areas can efficiently function within the Fountain Springs Battalion.

Pre-Attack Plans:

Develop updated maps utilizing GIS technology to capture all roads, fuel breaks, water locations, staging locations, and plot probable control lines. Possible strategies for fire suppression could be pre-determined utilizing fire history, typical fire weather and fire behavior models. Distribute the maps so equipment from other stations / areas can efficiently function within the Fountain Springs Battalion.

Battalion Priorities:

Updating and maintaining our fire road system will continue to be a priority in the Fountain Springs Battalion. By ensuring these road systems are well maintained, it allows us to access areas within the Battalion that would otherwise be difficult to access. Although the fire roads are necessary for access, they also serve as fuel breaks and need to be maintained as such.

Battalion Priorities Cont.:

Priority #1

Project Name: Posey VMP/VTP

Description: Approximately 340 acers. Fuel reduction around the communities of Posey, Panorama Heights, and Balance Rock.

Community: Posey, Panorama Heights, Balance Rock

Project Collaborators: CAL FIRE, private landowners in the SRA, US Forest Service.

Priority #2

Project Name: Fire Control Road maintenance

Description: Maintain the fire control roads in the battalion for fire suppression and quick access to fires.

Community: Fountain Springs, California Hot Springs, Poso, Poso Park, Jack Ranch, Sugarloaf Village

Project Collaborators: CAL FIRE, Private Landowners in the SRA, Sequoia Fire Safe Council.

Priority #3

Project Name: Panorama Heights Fuel Reduction Project

Description: Fuel reduction around the community of Panorama Heights

Community: Panorama Heights & Poso Park

Project Collaborators: CAL FIRE, Tulare County landowners in the SRA, Sequoia Fire Safe Council and the US Forest Service.

Priority #4

Project Name: Grapevine Road

Description: Fuel reduction, road maintenance for fire suppression for quick access to fires

Project Collaborators: CAL FIRE, local landowners

Priority #5

Project Name: Battalion Fire Prevention Signs

Description: Public education, Fire Prevention Messages displayed on roadside signs.

Community: Fountain Springs, Posey, Pine Mountain, Ducor, Panorama Heights, California Hot Springs

Project Collaborators: CAL FIRE and the Sequoia Fire Safe Council.

Priority #6

Project Name: King George VMP

Description: Approximately 900 acres. Fuel Reduction, Community defensible space, range improvement, weed management, and wildlife habitat enhancement.

Project Collaborators: CAL FIRE, Sequoia Fire Safe Council, and local landowners.

Priority #7

Project Name: Blue Mountain VMP Tulare and Kern County

Description: Fuel Reduction, Community defensible space, range improvement, weed management, wildlife habitat enhancement

Project Collaborators: CAL FIRE, Sequoia Fire Safe Council, Kern County Fire Department, and local landowners

AIR ATTACK PROGRAM: Porterville Air Attack Base, Battalion 4108

Figure 21 CAL FIRE Air Attack 410

The Porterville Air Attack Base was established in 1958, originally a US Forest Service Base. In 1966 CAL FIRE and the Forest Service signed a cooperative agreement, in the mid 70's Bureau of Land Management joined the agreement and have augmented staffing when needed. Originally a three-pad base, in 2003 a new base was placed in service. This base consists of an Operations Building, Warehouse, Hanger, Retardant Mix Plant and five loading pads.

Staffing at Porterville Air Attack Base consists of one OV-10 Bronco, used as an aerial supervision platform, and two S2T air tankers. Often one or more Federal Air Tankers will be assigned to the base. With the air bases new electric pumps, 70,000 gallons of fire-retardant storage, and five pads it has a peak output of 225,000 gallons a day. On average Porterville Air Attack Base supplies 1,000,000 gallons of fire retardant to incidents each year, supporting 6 counties, 5 forests, as well as BLM and BIA ground totaling over 10 million acres of fire protection.

MHCC Program Information



Division 4103

Mountain Home Conservation Camp along with the Tulare Unit Firefighter Hand Crews, assisted with restoration efforts within the Mountain Home Demonstration State Forest. Several areas throughout the forest were severely impacted by the “Castle Fire”. To date, crew work continues on the Mountain Home Demonstration State Forest as this has become a priority to ensure public safety when it becomes open to the public seasonally.



Figure 22 CAL FIRE Firefighter using a drip torch to light a prescribed fire.

The camp also committed numerous crew days to the Gibbon, Crawford Corral, and Swamp Vegetation Management Projects. Along with VMP'S, crews also performed work and maintenance on several miles of Fire Control Roads throughout the unit.

Mountain Home Camp also produces fire prevention signs which are intended to increase fire safety awareness to the public. Additionally, the camp provides much needed public service work throughout the county, including working with cooperators such as the Tulare County RCD, County Road Department, Army Corps of Engineers, Tulare County Office of Education, irrigation, and flood control districts as well as the cities of Porterville, Lindsay and Woodlake.

Over the last year, it has been a challenge to keep crews up to the minimum staffing levels due to early release of many individuals in the State Prison System. Due to this challenge, the camp unstaffed three crews for the entire year due to the low crew numbers.

Mountain Home Camp is committed to providing a quality work force regardless of the nature of the assignment, from emergencies to fuels reduction work to community projects, Mountain Home Camp strives to go above and beyond to complete these assignments in a thorough professional manner.

Mountain Home Demonstration State Forest

Division 4104*Mountain Home Demonstration State Forest (MHDSF) Fuel Reduction and Restoration Activities*

Fuel reduction and forest restoration activities at MHDSF during the summer and fall of 2021 was primarily focused on salvage harvest of trees killed during the 2020 SQF Complex. Sierra Forest Products sawmill held MHDSF to a strict daily production rate of 8 log truck loads or roughly 48 thousand board feet (MBF). The log yard at the Terra Bella mill was full in early December and operations ceased. The year-end total of delivered logs yielded a volume of a little over 6 million board feet (MBF).



CAL FIRE has had some time to re-evaluate this 2020 estimate of approximately 30 MMBF of merchantable timber being destroyed in the wake of the fire. The original estimate has thus been reduced to an estimated 23 MMBF. Assuming 2022 log deliveries will be like 2021, an expected 6-7 MMBF is anticipated from salvage operations.

Tulare Unit crews from Mountain Home Conservation Camp and Tulare Work Center performed the majority of the “site preparation” work at the Forest. Site preparation in this context is the additional treatment of slash and other operational wood waste; as

well as vegetation that was damaged during the SQF Complex. Crews were tasked with lopping and scattering tops and limbs, hand piling and burning. No mechanical site preparation occurred except for 6 acres in the Coppermine basin. This work was done to accommodate the planting of two, 3-acre plots for the Sierra Nevada Adaptive Management Experiment being studied by the University of Nevada at Reno.

As noted in the 2021, it was estimated that 200 old-growth giant sequoia (OGGS) trees perished because of the SQF Complex. Three Forestry Aides under the direction of a Forestry Assistant II were tasked with revisiting each OGGS to

determine the actual mortality of the OGGS. Of the 4,750 OGGS known to exist at MHDSF, all but 600 had been reevaluated. The current mortality rate of OGGS is approximately 6.3 percent. It is anticipated that this number will decrease after the remaining trees are revisited in 2022. Additionally, there are 475



OGGS within the Mountain Home Grove which are located within the bounds of Balch Park. These trees are also scheduled to be inventoried in 2022. Considering that CAL FIRE management activity both on and adjacent to Balch Park greatly limited damage to the monarchs on the county land, it is expected that the mortality rate be further reduced. Estimations of total mortality of OGGS within the Mountain Home Grove will likely be reduced to around 4 percent. This number is a living testimonial to well-designed management strategies and effective implementation.

CalOES did a sizable hazard tree removal project along the Bear Creek and Balch Park Roads which access many MHDSF recreational facilities and removed thousands of fire damaged trees with 2.5 tree lengths of the County roads.

As stated in 2021, all of the State Forest recreational facilities were impacted by the fire as well as the total loss of the

“The House that Jack Built” historical cabin. Early in 2021, TUU crews and USFS crews (falling modules) cleared hazard trees from the Redwood Crossing and River Trails to the Golden Trout Wilderness boundary.

This allowed trail access to the wilderness for only the Balch Park Pack Station as the wilderness area adjacent to MHDSF remained officially closed to the public throughout the year.

Many repairs were made to other recreation areas at MHDSF that allowed for low-risk camping at Methuselah, Hedrick Pond, and Shake Camp in a timely fashion. The regional Associate Archaeologist and Forest Manager are planning for reinterpret and reconstruct the Sunset Point Archaeological Interpretive Trail which was destroyed during the SQF. More restoration work with high-use recreation areas is planned for 2022. Though most of the restoration effort will be done by Licensed Timber Operators (LTOs), it is expected that some project work will be performed by fire crews includes the felling of smaller trees, chipping, piling for burning, and lopping and scattering in areas suitable for broadcast burning. Retired annuitants (when available) will oversee much of the work being done by CAL FIRE crews.

There are numerous small plantations (typically under 2.5 acres in size) that have experienced significant mortality because of past bark beetle activity. These dead trees need to be removed from the plantations as they share canopy space with other conifers that remain healthy. The dead trees provide a continuous fuel ladder from the forest floor directly into the canopy. These trees shall be felled by hand and the resultant material shall either be piled by hand for burning in

the winter or lopped and scattered for broadcast burning in the fall. All cutting and piling shall be performed by MHCC crews, cover crews, and/or MHDSF staff. Pile and broadcast burning shall be performed by MHDSF staff and/or MHCC crews on permissive burn days with a permit through the San Joaquin Valley APCD. Given the dynamic nature of vegetation response to disturbance, sprouting and natural seeding will eventually re-invade the treated areas. These areas must be maintained by chemical and/or manual means which may and should include the use of prescribed fire. As many of these plantations are located away from the severely impacted areas elsewhere on the forest, they are of lesser priority at this time.

Maintain a defensible fuel profile within and around day use areas and campgrounds. Saplings and small poles shall be marked by MHDSF staff for cutting and chipping/burning. This work will take place within the common campground and day use facilities and shall extend for a distance of at least 100' in all directions from the campground improvements. The treatment distance will be increased as slope increases or as directed by the Forest Manager. Much of this work will be done by LTOs in those areas where fire induced mortality occurred within and adjacent to campsites.

- Maintain PRC 4291 clearance specifications around all State owned and operated structures that are maintained for human habitation. This shall include the summer and winter headquarters, barracks, and Pack Station. Similar maintenance shall be performed around the fuel tank, propane tanks, and warehouse as well.
- Continue fuel treatments in selected areas throughout the Forest. Strategically located areas that are within close proximity to roads or trails shall be selected for treatment. These areas shall be treated by pre-commercial thinning of conifers typically less than 8 inches DBH and full removal of woody brush species. All cut vegetative matter shall be piled for seasonal burning and/or lopped and scattered providing clearance around residual trees for future broadcast burning. All cutting, piling, lopping, and scattering shall be performed by contractors, MHCC crews, cover crews, and/or MHDSF staff. These treatments shall be done once all post-fire rehabilitation and restoration work has been completed.
- No formal broadcast units in green forest stands are planned for 2022. All burning expected for Fall/Winter 2022/2023 will be the treatment of logging slash. Where heavy equipment is capable of piling slash to remove the dead material from planting areas, it will be burned by



MHDSF staff. The slash on oversteep areas will be treated by lopping and further treated by burning as a site preparation treatment. The Tulare Unit Forester shall prepare a Burn Plan and Smoke Management Plan to address the fuel treatments subsequent to salvage harvesting.

Recent Harvest Activity

- As previously stated, just over 6 MMBF of fire killed timber was harvested during the 2021 season.
- Salvage logging operations will continue in 2022. There are approximately 17 MMBF of fire killed timber remaining to be removed. We anticipate another wave of mortality as first order fire effects continue to manifest.

Additional Fuel Treatments

- None to mention.

Planned Timber Harvest Operations

- Mountain Home Forest staff continue planning for the harvest and rehabilitation of approximately another 1,200 acres destroyed during the SQF Complex that remain to be treated.

Planned Fuel Treatments

- The only fuel treatments planned under the scope of the 2022 Fire Plan are the treatment and burning of logging slash and other damaged vegetation resulting from the SQF Complex.

Summary

Current management activities at MHDSF focus on the restoration and protection of a magnificent Southern Sierra mixed conifer forest. This Forest contained 4,750 old growth giant sequoia specimens which John Muir referred to as “the finest the Sierra had to offer”. Given the history of fire suppression activities in the western states, forest managers must keep fuel loading and resource protection as a top priority. In the face of impending climate change, managers must consider the ecological needs of the species contained within the forest and develop strategies to minimize the potential for long-term negative effects. Wildfires that occur on the majority of public lands are getting bigger and burning with more intensity than they have historically. These “mega fires” indiscriminately destroy habitats and watersheds and set succession back centuries. The management activities occurring at MHDSF are designed to reverse the trends of overstocking by creating a forest that more closely resembles the pre-European condition as was found by the pioneers.

It should be noted that all the on-the-ground activities that take place at MHDSF have been thoroughly planned and evaluated and are in compliance with the California Forest Practice Rules, California Environmental Quality Act, California Department of Fish and Wildlife Rules, Air Pollution Control District Rules and Regional Water Quality Control Board Rules and Regulations.

TRAINING BUREAU

Battalion 4106


The Tulare Unit Training Bureau has set several goals to improve firefighting effectiveness, training efficiency and safety of its members.

The Goals include but are not limited to:

1. All Unit personnel attend all or applicable segments of the annual Continued Professional Training (CPT) academy(s) to maintain firefighting skills and required recurrence training. The intent is for personnel to meet 4032 and 4064 training requirements.
2. All TUU Fire Control personnel to attend "A" Faller training.
 - a. Selected personnel will attend "B" Faller Training
 - b. Selected personnel will attend "C" Faller training
 - i. Selected individual "C" Faller will be named as the Chain Saw Program Coordinator (CSP)
3. All TUU Fire Control personnel receive continued training on firefighting tactics and safety in both wildland and structural firefighting. Two examples of such training include Firefighter Survival (structural) and Sand Table scenario training.
4. All TUU Battalion Chiefs, Fire Captains and FAE's attend C-234 Intermediate Firing Operations course.
5. All TUU Fire Control Personnel assigned to the Porterville Air Attack Base attend the following training where applicable:
 - a. Air Base Safety Training
 - b. Air Tanker Base Manager (ATBM) Training
 - c. C-378 Aerial Supervision (ATGS) Training
6. All Tulare Unit "Frequent Drivers" comply with department policy regarding Defensive Driver training by successfully completing the Department of General Service-ORIM online Defensive Driver Training at least once every four years.

TUU personnel attend applicable training and qualify in Incident Command System (ICS) positions. The intent is to meet the Unit's obligation to Minimum ICS Qualified Personnel Matrix (7700) located in Handbook 7000 - Fire Operations.

APPENDIX A: PRE- FIRE PROJECTS

<div>  <div> PRE-FIRE PROJECTS Tulare Unit (TUU) 01/01/2019 thru 12/31/2019 </div> </div>				
PROGRAM	PROJECT NAME	PROJECT_STATUS	TREATMENT_F OOTPRINT_AC RES	TREATMENT FOOTPRINT MILES
FirePlan	Badger Fuel Reduction	Active	44.86	
FirePlan	Baker Cut Off	Cancelled	4.03	
FirePlan	Bear Creek Road	Active	74.25	
FirePlan	Blue Ridge Fuel Reduction	Planned	2.80	
FirePlan	Bonsi Burn	Active	94.69	
FirePlan	Buzzard Roost FCR	Active	27.73	11.23
FirePlan	Camp Nelson	Planned		
FirePlan	Case Mountain FCR	Cancelled	11.42	
FirePlan	Cleavland FCR	Cancelled	6.99	
FirePlan	Cow Mountain FCR	Cancelled		
VMP	Crawford Corral	Active	193.84	
FirePlan	Deer Creek FCR	Planned	42.85	
VMP	Gibbons Peak	Active	1,117.48	6.18
FirePlan	Gill Range Management Burn	Planned		
FirePlan	Grouse FCR	Cancelled	15.89	
CFIP	Hartland CFIP 2015	Complete	310.86	
CFIP	Hartland CFIP 2016	Planned	36.46	
CFIP	Hartland CFIP 2017	Complete	28.22	
FirePlan	Herbert Burn	Complete	222.58	
FirePlan	Horse Creek FCR	Cancelled	22.16	
FirePlan	James Coral FCR	Planned	11.67	
FirePlan	Kaweah Oaks Preserve	Complete	123.19	
CFIP	Kaweah Oaks Preserve CFIP 2016	Complete	586.53	
VMP	Mankin VMP	Active	632.61	
FirePlan	Pine Mountian Community Chipper Day	Planned	2,846.27	
FirePlan	Ponderosa	Planned		
FirePlan	Ponderosa Community Protection	Active	17.37	
VMP	Posey VMP	Active	8.28	
FirePlan	Poso Park	Planned		
FirePlan	Pot Hole FCR	Active	45.32	
FirePlan	Rustler Training Burn	Complete	32.05	

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PROGRAM	PROJECT NAME	PROJECT_STATUS	TREATMENT_F OOTPRINT_AC RES	TREATMENT FOOTPRINT MILES
FirePlan	S. Blue Ridge Fuel Break	Cancelled		
FirePlan	Salt Creek FCR	Complete		0.08
FirePlan	Sandy Creek FCR	Cancelled	8.74	
FirePlan	Sequoia Crest Fuel Reduction	Planned	0.80	
FirePlan	Shake Camp Fuel Reduction	Active	71.01	
CFIP	Sierra Forest Products CFIP 2017	Active	471.24	
FirePlan	Stillwell FCR	Cancelled	7.74	
FirePlan	Stone Corral FCR	Cancelled	12.68	
FirePlan	Success Rx Burn	Complete	201.87	
FirePlan	Sugarloaf	Planned		
FirePlan	Summit Burn	Active	133.40	
FirePlan	Tulare County CWPP	Planned		
FirePlan	Tulare County Chipper Days RCD Grant	Planned		
FirePlan	Tulare County Chipper Days/Grant 17/18	Planned		
FirePlan	Upper Grouse Fuel Reduction	Active	87.90	
FirePlan	Van Gorden FCR	Planned	16.27	
FirePlan	Wilcox Cut Off	Cancelled	11.38	
FirePlan	Wilcox FCR	Cancelled	12.17	
Totals			7,595.60	17.49

APPENDIX B: UNIT GOALS AND OBJECTIVES

The Tulare Unit Key Goals and Objectives from the California Strategic Fire Plan:

- Support the implementation and maintenance of defensible space inspections around structures.
- Analyze trends in fire cause and focus prevention and education efforts to modify behavior and effect change to reduce ignitions within Tulare County.
- Continually evaluate the success in achieving the 95% threshold of keeping fires less than 10 acres in size.
- Identify and evaluate wildland fire hazards and recognize assets at risk, collecting and analyzing data to determine fuel reduction project or other projects.
- Support the availability and utilization of CAL FIRE resources, as well as public and private sector resources, for fuels management activities, including ongoing maintenance.
- Assist landowners and local government in the evaluation of the need to retain and utilize features (e.g., roads, fire lines, water sources) developed during a fire suppression effort, taking into consideration those identified in previous planning efforts.

CAL FIRE MISSION STATEMENT:

The California Department of Forestry and Fire Protective serves and safeguards the people and protects the property and resources of California.

APPENDICE C: FUEL MODEL

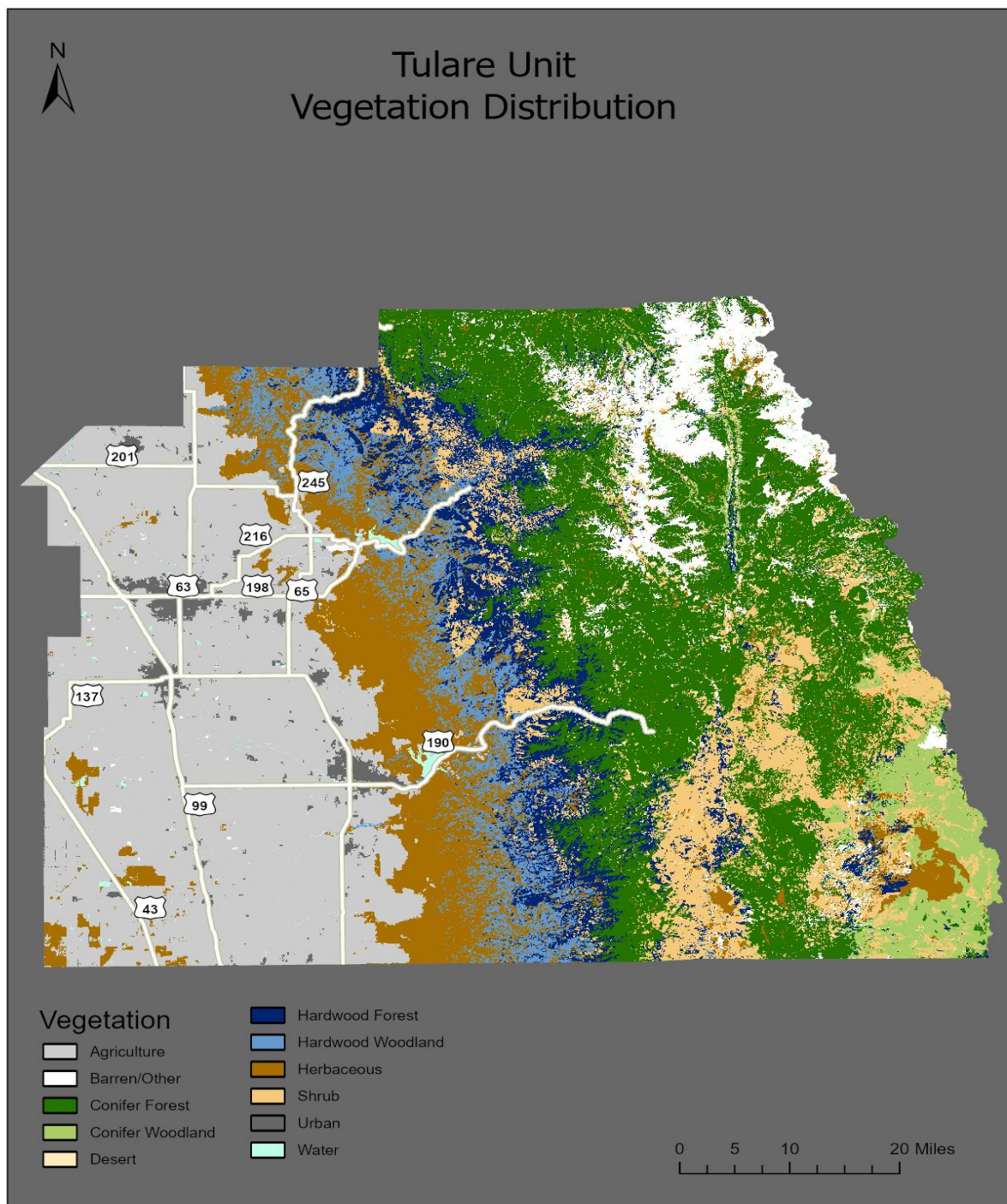


Figure 26 Modelled distribution of fuel across the Tulare Unit

APPENDIX D: LARGEST FIRES PAST 50 YEARS

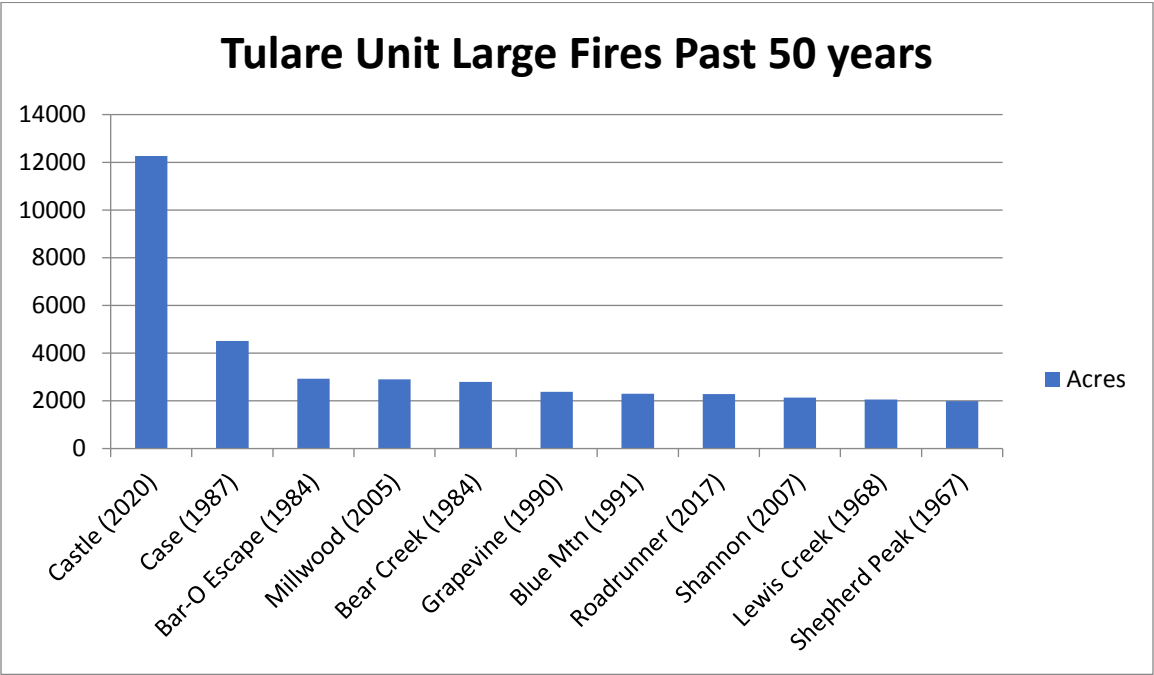


Figure 27 The graph shows the largest fire in the State Responsibility Area in the past 50 years, with the 2020 Castle Fire being the largest at over 12,000 acres

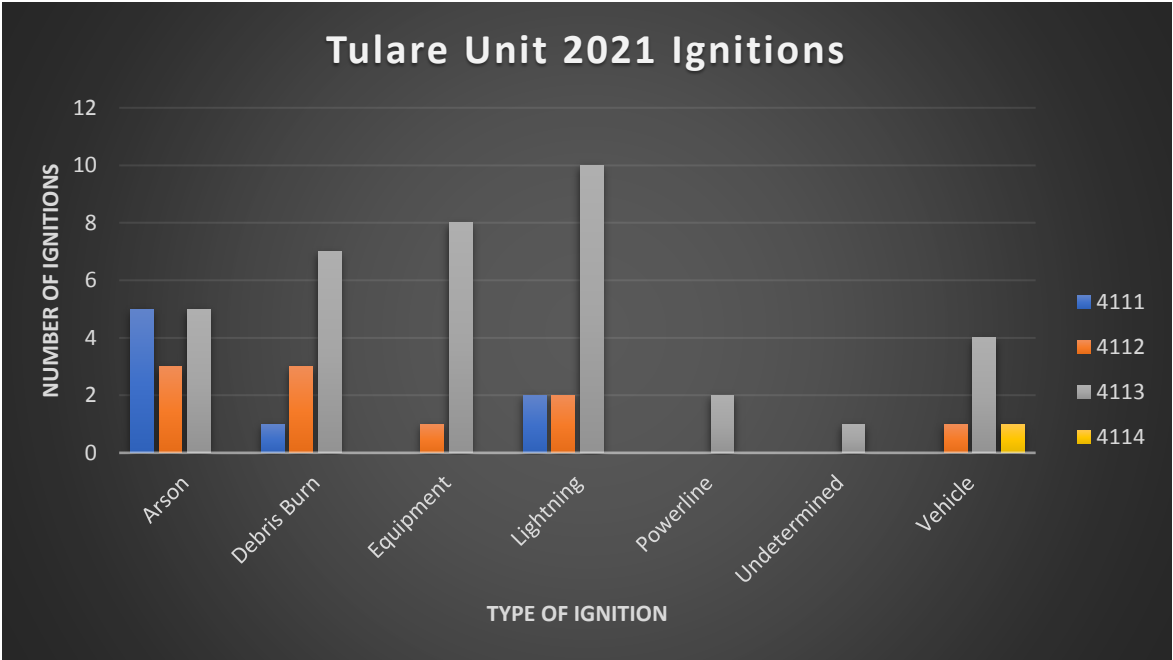


Figure 28 This graph shows the distribution of ignitions in each battalion.

APPENDIX E: IGNITIONS

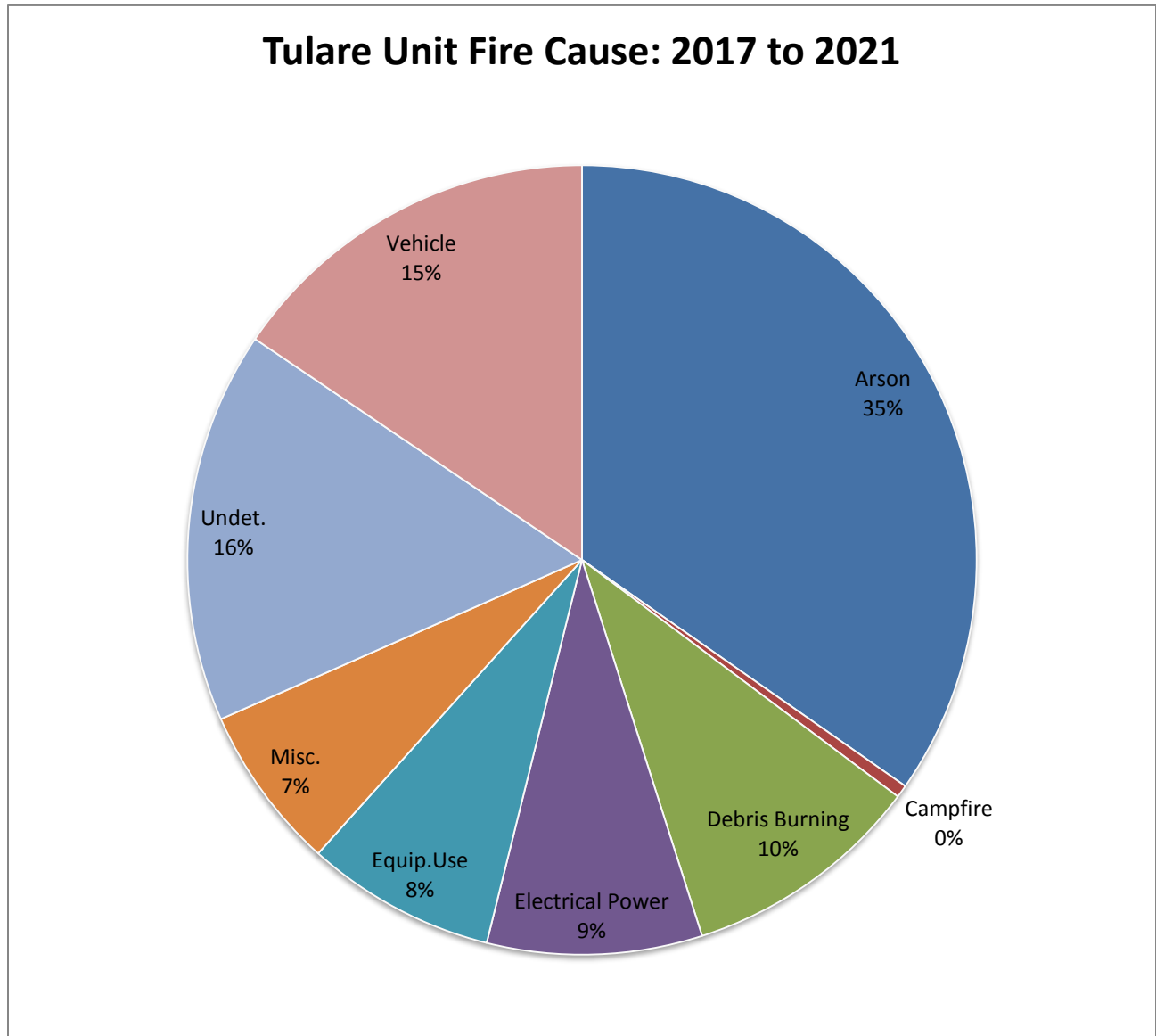


Figure 29 The pie chart shows the distribution of fire causes in the Tulare Unit from 2017 – 2021.

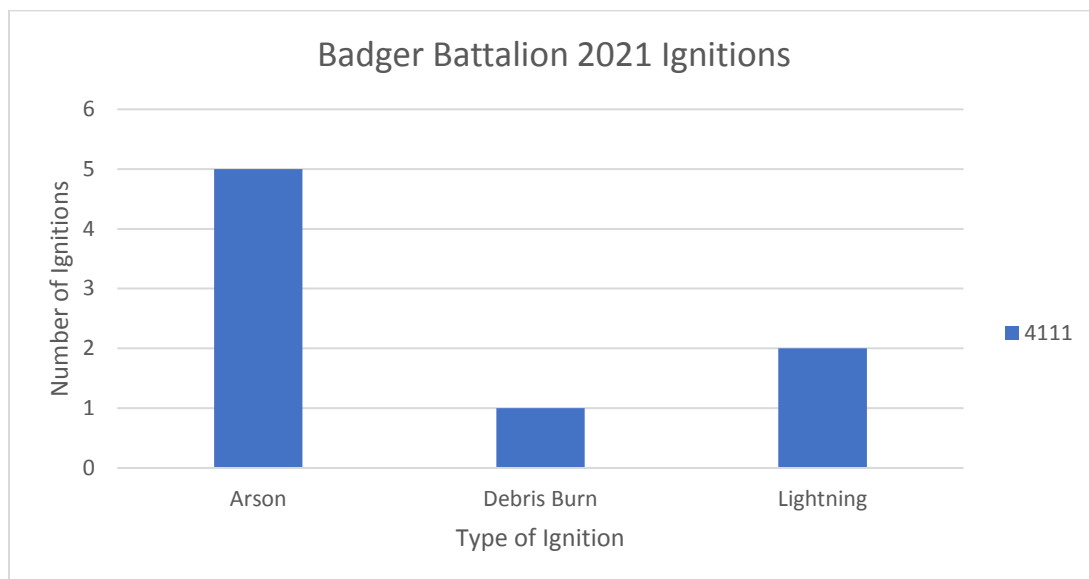


Figure 30 Fire Causes in the Badger Battalion. There were 10 ignitions in the Badger Battalion.

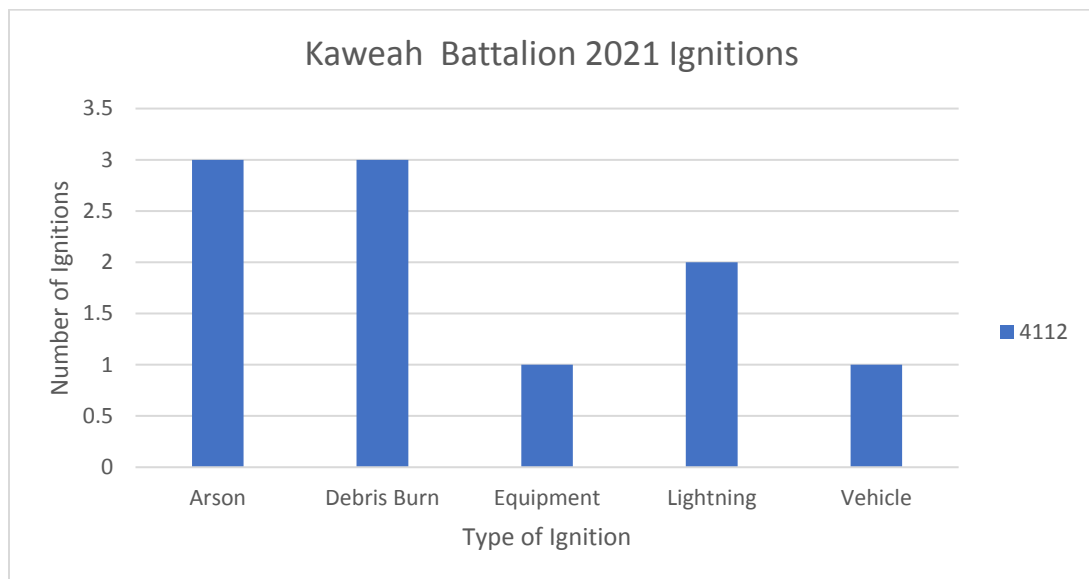


Figure 31 Fire causes in the Kaweah Battalion. There were 10 ignitions in the Kaweah Battalion.

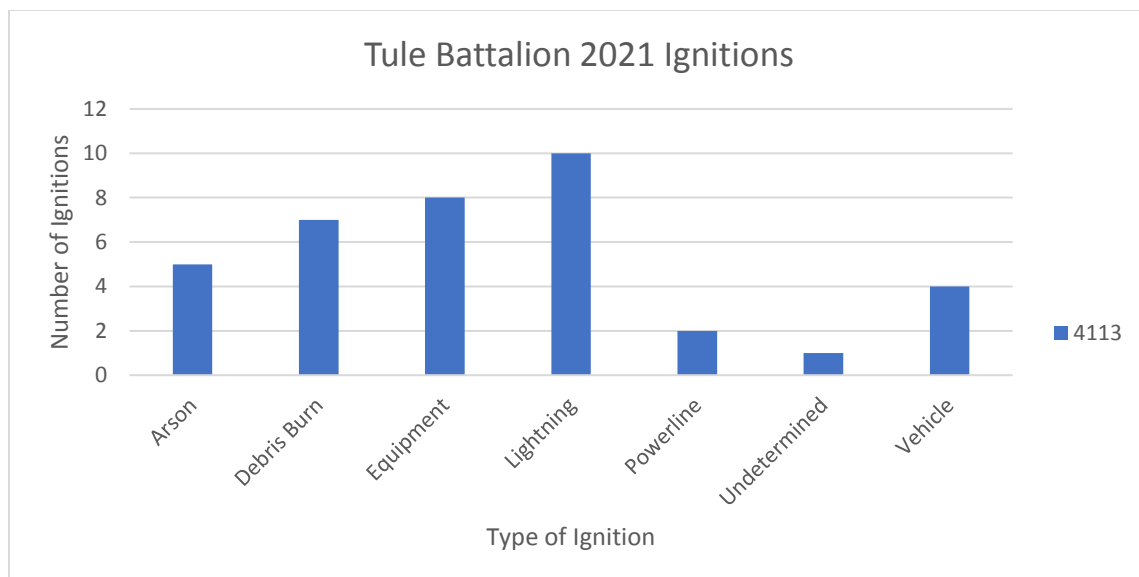


Figure 32 Fire causes in the Tule Battalion. There were 42 ignitions in the Tule Battalion.

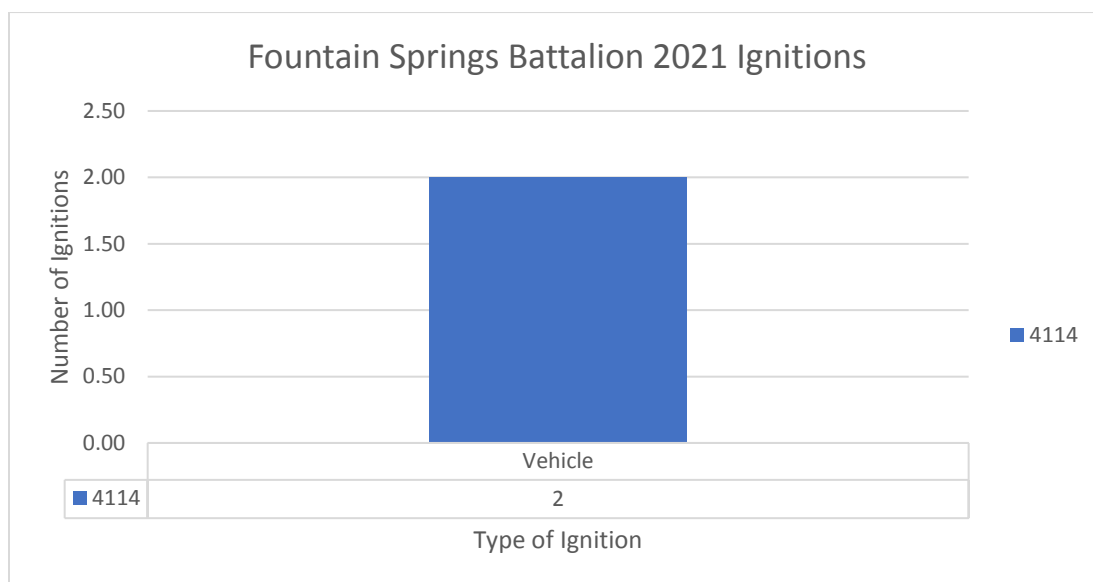


Figure 33 Fire causes in the Fountain Springs Battalion. There were 2 ignitions in the Fountain Springs Battalion.

APPENDIX F: FIRE HAZARD SEVERITY ZONE

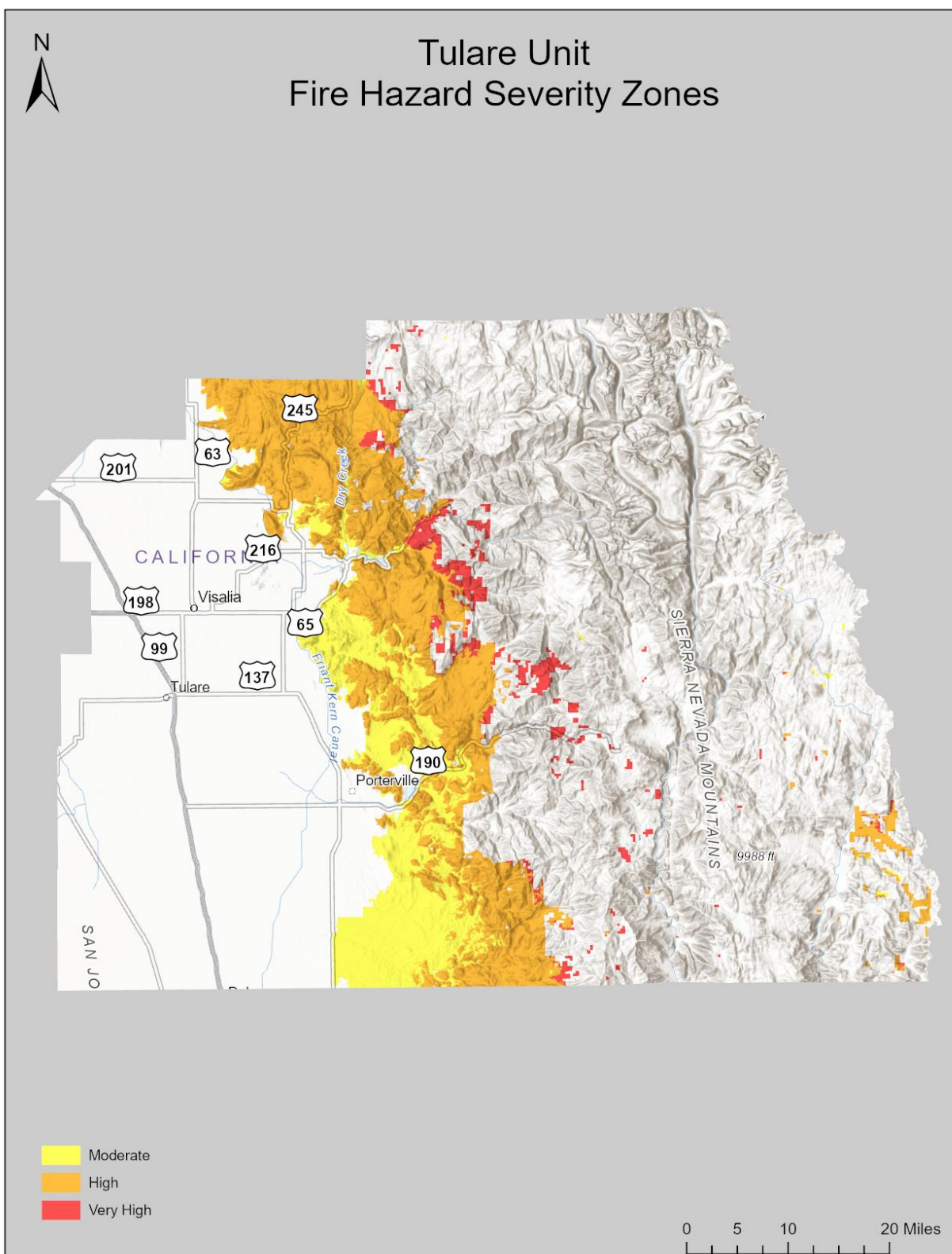


Figure 34 Fire hazard severity zones in Tulare Unit's State Responsibility Area

EXHIBITS: MAPS

Figure A: Unit Map

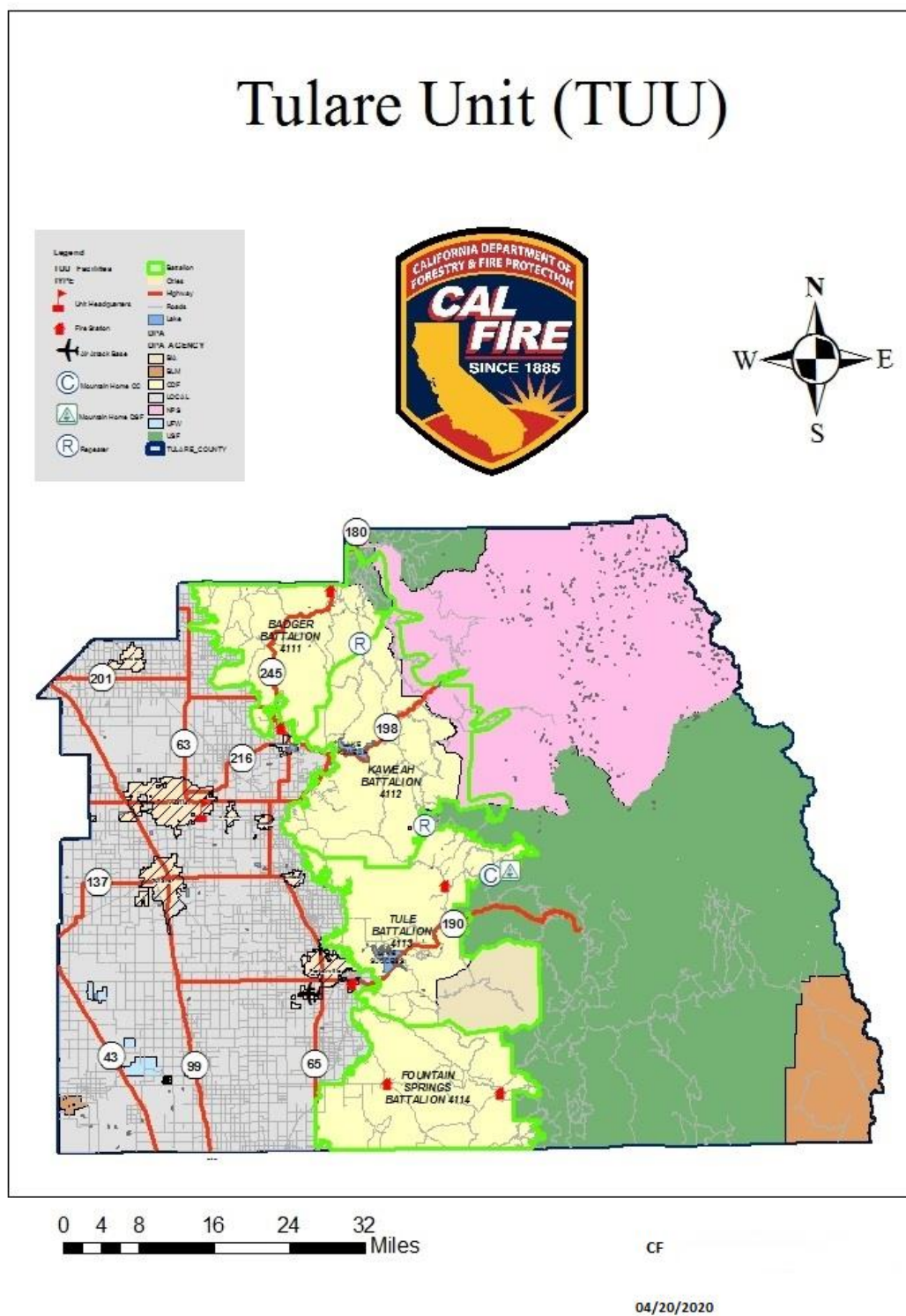


Figure 35 Map of the Tulare Unit

Kaweah Battalion 4112

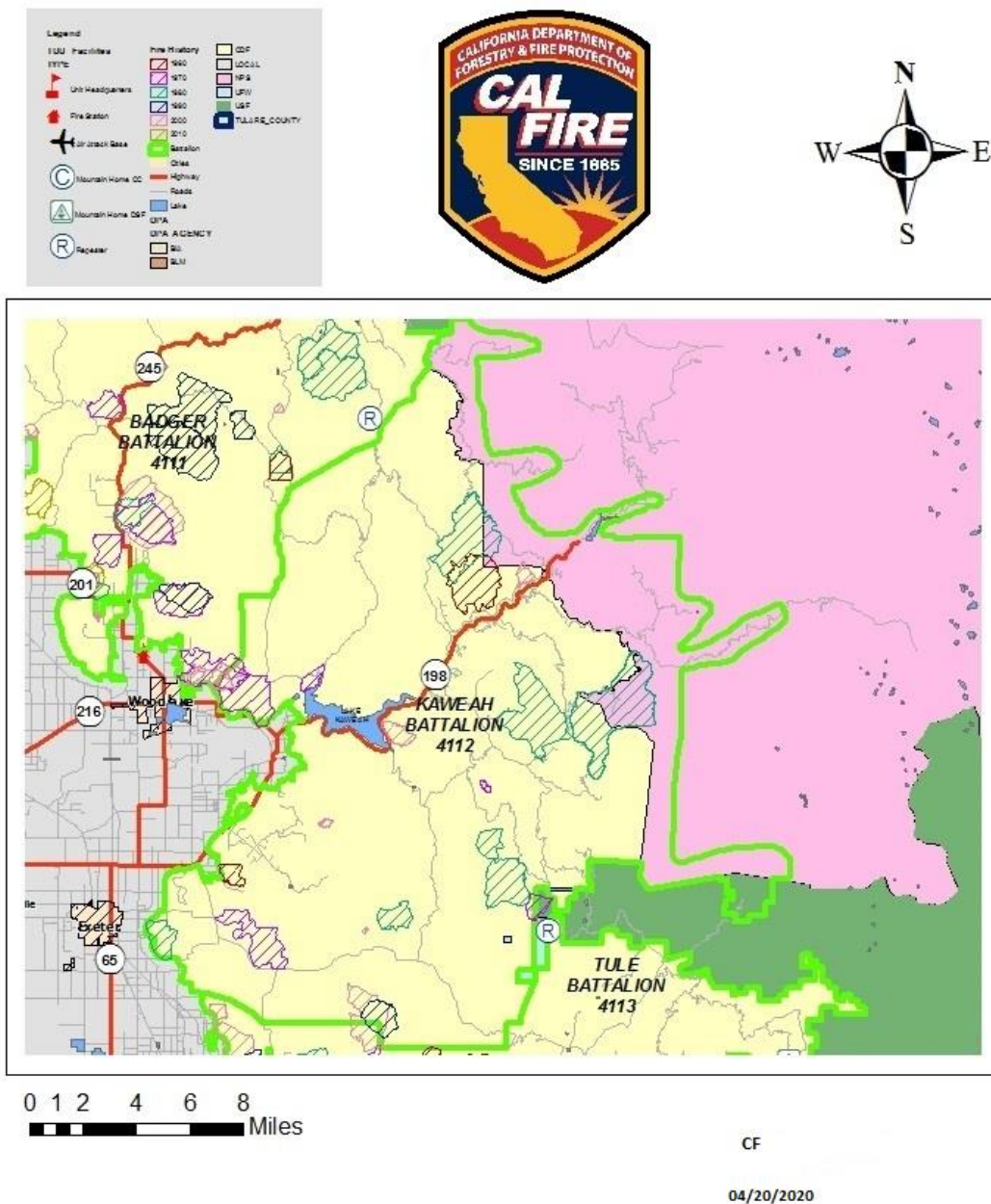


Figure 37 Map of the Kaweah Battalion

Tule Battalion 4113

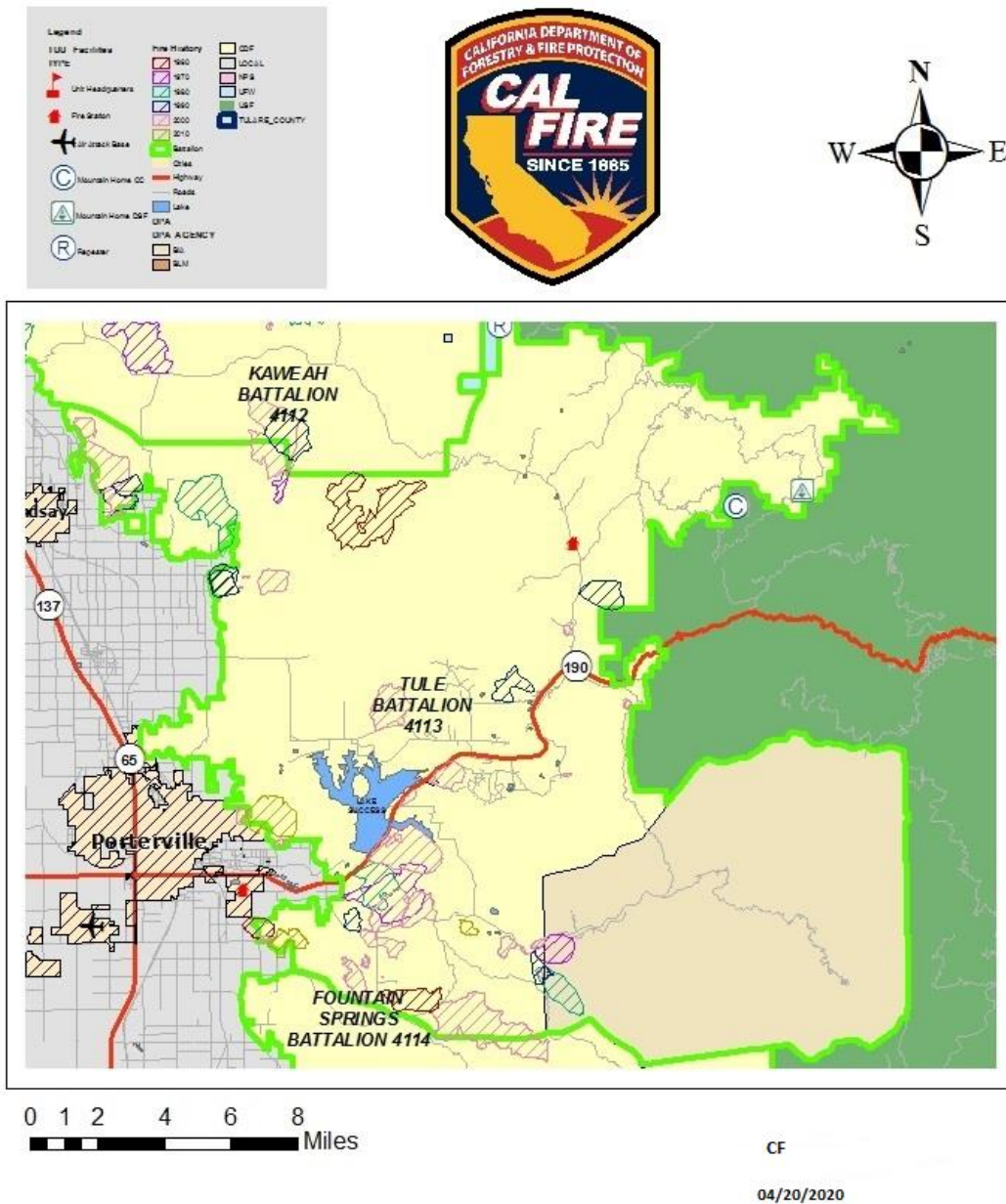


Figure 38 Map of the Tule Battalion

Fountain Springs Battalion 4114

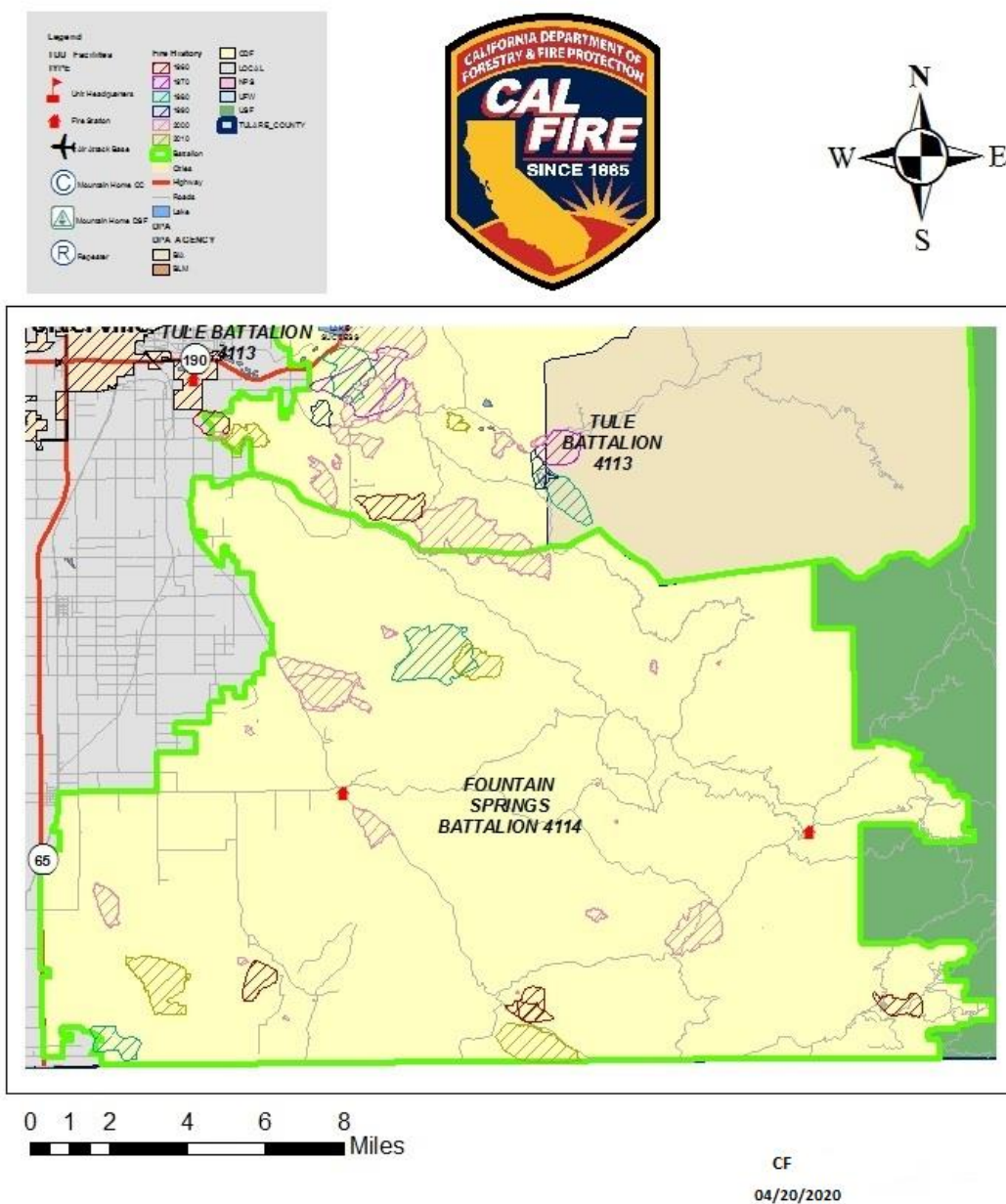


Figure 39 Map of the Fountain Springs Battalion

ANNUAL REPORT OF UNIT ACCOMPLISHMENTS (2021):

Wildland Fire Prevention Engineering:

The Tulare Unit currently has approximately 10 VMP'S with a combined total of 15,515 acres that are identified and currently active or in the planning phases. Tulare County Resource Conservation District has currently applied for 12 additional grant funded fuel reduction projects within the Unit which total approximately 7,156 of treated acres throughout the Unit once completed. Unit maps have been updated with updated response areas and Direct Protection Areas (DPA'S) within the Unit. Pre-Fire management is currently working with local stakeholders and collaborators to produce and distribute brochures which include maps of escape routes within certain geographical areas of Tulare County.

Civil Cost Recovery:

CAL FIRE's Civil Cost Recovery program recovers fire suppression costs when a fire investigation reveals that the responsible party caused the fire negligently or in violation of law. This benefits the State in two ways: it assigns fire suppression costs to culpable parties rather than the taxpayers at large and it serves as a deterrent to carelessness that can result in destructive fires. All fires meeting minimum criteria were forwarded to Southern Region Office for review and civil cost collection.

Education and Information:

This year with help from permanent staff, seasonal firefighters, and volunteers in prevention, we participated in 20 first grade school programs utilizing team teaching. We continue to have our display at the Tulare County Fair. TUU personnel educated the public and allowed children to cut a log and brand Smokey Bear into the piece they cut. We also decorated multiple floats and participated in multiple holiday parades, spreading our fire prevention message. The Tulare Unit has also expanded its Fire Prevention message and information through various social media platforms such as Facebook, Twitter, Instagram, and TikTok.

Vegetation Management:

The Tulare Unit was able to complete a total of approximately 603 treated acres on various Fuel Reduction projects throughout the unit in 2021. These projects include Crawford Corral VMP where 85 acres were treated and mechanically piled. Doyle Springs Fuel Reduction Project where 104 acres were treated and chipped utilizing a skid steer and chipper. Gill Range Improvement NOE where 50 acres were treated via broadcast burn, with 16 acres treated by limbing, bucking, and piling.

42 acres were treated on the Grouse Right of Way (ROW) project. The treatment consisted of limbing, bucking, mastication, piling and pile burning. Work continues in several areas throughout Mountain Home Demonstration State Forest with a total of 306 treated acres in 2021. The treatments include limbing, bucking, thinning, piling, and pile burning.

24 acres were treated on the Shade Quarter Fire Control Road. Treatment consisted of piling, and pile burning. The Shade Quarter Mastication project treated 197 acres of brush and oak woodland. A total of 3,279 personnel and equipment hours were utilized on the above projects in 2021.

Fire Control Roads remain a priority for the Tulare Unit. Approximately nine miles of Fire Control Roads were given much needed maintenance and repairs such as: road grading, replacement, and maintenance of culverts, brushing of roadsides and cattle guard repairs and maintenance. Updating and maintaining our fire road system will continue to be a priority in the Tulare Unit in 2022.

By ensuring these road systems are well maintained, it allows us to access areas within the Unit which would otherwise be difficult to access. Although the fire roads are necessary for access, they also serve as fuel breaks and need to be maintained as such.

DocuSigned by:

Matt Streck

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Matt Streck

Unit Chief

5/6/2022

Date